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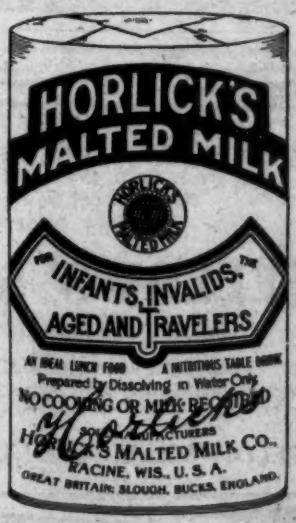

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General Scientific

CHRONIC PULMONARY TUBERCULOSIS.

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New York

By pulmonary tuberculosis is meant that condition of the lung which, manifesting itself by symptoms, objective and subjective, is caused by the invasion of that organ by the bacillus tuberculosis.

Clinically pulmonary tuberculosis is divided, according to Osler and others, into three groups: 1. Acute Phthisis, 2. Chronic Ulcerative Phthisis, and 3. Fibroid Phthisis. In this paper the chronic group alone will be considered.

Etiology. Among the various etiologic factors of pulmonary tuberculosis such as tubercle bacilli, heredity, lowered resistance; grief, worry, want of air and sunlight; sweat shops, deficiency of adrenal function; various diseases, etc., a deficiency of the tissues in mineral salts-demineralization, particularly decalcification, should be strongly emphasized.

Pathology. The organism found in tuberculosis was named by Koch after the disease, while the disease itself received its name from its pathologic characteristics—formation of tubercles, or nodular bodies. The mechanical irritation caused by the tubercle bacillus stimulates the tissue surrounding them to an exuberant growth, a little swelling or a tubercle, hence the name tuberculosis.

Symptomatology. Here as well as in the physical examination only those signs and symptoms which help us to diagnose the case in its early stages will be described. An early diagnosis of tuberculosis is of the utmost importance for the patient, for many a person goes on with symptoms of the so-called first stage and the condition may not be recognized by the physician until the disease is fairly advanced; and the diagnosis is, of course, easy then, but to do much for the patient is difficult.

Modes of Onset (classification after Osler).

1. Latent type.

In this type the disease may make considerable progress before there are serious symptoms to arouse the attention of the patient.

2. With symptoms of dyspepsia and anemia.

This is a very common symptom, frequently being the predominant one in latent tuberculosis.

Anemia. Latent cases as well as early ones often present a picture of anemia.

3. With malarial symptoms.

The onset of pulmonary tuberculosis may be with symptoms suggesting malarial fever.

4. With pleurisy.

5. With laryngeal symptoms, where the primary localization may be in the larynx.

6. Onset with hemoptysis.

7. Onset with tuberculosis of the cervicoaxillary glands. Enlargement of glands in the neck or of neck and axilla of one side may precede the onset of pulmonary tuberculosis for months or even for years.

8. Bronchial symptoms. In largest number of cases the onset is with a bronchitis.

9. Onset with ischiorectal abscess, in latent cases especially (according to other authorities).

These modes of onset are very important to bear in mind for the sake of avoiding errors.

Some of the modes of onset will be taken up in more detail in the following pages when the various symptoms will be considered carefully and discussed as much as time and space will allow.

One of the earliest symptoms which is most constant is a loss of strength or a tendency to tire easily; continuous overfatigue, both physically and mentally, but especially physically.

Cough is usually the first symptom that draws attention to the lung. It should be noticed that a severe cough is sometimes an etiologic factor.

Pain may appear as one of the earliest symptoms. The pain tends especially to be localized either in the apices or in the anterior chest wall above or below the clavicle to the third rib, in the intercostal spaces; or in the back below the scapula and in the supraspinous fossa, or along the vertebral margin of the scapula and frequently in the neighborhood of the nipple. One of the main causes of this pain is traction on the almost never-failing adhesions. (Other important causes are neuralgias, neuritis, functional exhaustion.)

Sputum. "There is no particular variety of sputum which can be said to be characteristic of pulmonary tuberculosis,"—(French). The sputum may or may not contain the tubercle bacilli. But "the continued presence of tubercle bacilli in the sputum is an infallible indication of the existence of tuberculosis,"—(Osler). The last mentioned authority also says that the earliest

trace of characteristic sputum may show the presence of small grayish or greenish-gray purulent masses. Elastic tissue derived from the bronchi, alveoli or arterial coats is very seldom found in the early stage of the disease. But its presence in the sputum is, in my opinion, characteristic of the disease, if gangrene, abscess or infarct of lung can be excluded in the case in question. "The best evidence of lung destruction is afforded by the discovery of elastic fibres in the sputum"—(French).

Hemoptysis. Osler says the hemoptysis, occurring in about 80 per cent. of the cases of pulmonary tuberculosis, is more frequent in males than in females. Most frequently the hemorrhage occurs in the very beginning of the disease. Not rarely it precedes all other phenomena. In some cases the hemoptysis repeats itself continuously; and the name hemoptoic phthisis was given to this form of tuberculosis. In connection with this onset the following non-tubercular hemorrhages should be carefully excluded:

1. Gastrict hemorrhage (here the blood is thrown up more than once, is darker in color or has the coffee-ground color, and is usually of an acid reaction).
2. Diseases of the heart, especially mitral stenosis and tricuspid diseases (examine carefully the heart).
3. Vicarious hemoptysis in women.
4. Hemoptysis in malaria.
5. Hemoptysis in hysteria (characterized by a reddened discoloration of the sputum often lasting over a long period), and
6. Hemorrhages from the throat.

Night Sweats. This symptom always suggests tuberculosis, though it does not often occur in the early stage, but night sweats may occasionally be the earliest symptom.

Dyspepsia and Anemia. The early manifestation of tuberculosis may be expressed by great irritability of the stomach with eructations, nausea and vomiting, and epigastric heaviness. In young girls this may be accompanied by chloranemia in various grades and amenorrhea. The nausea and vomiting and the eructation occur usually an hour or two after meals and are relieved by eating. M. Solis-Cohen says that these symptoms are frequently the predominant ones in latent tuberculosis. Anorexia is an early and common symptom.

Laryngeal Symptoms. The primary localization may be in the larynx. The voice may become weaker, hoarse and toneless. A tendency to hoarseness or huskiness of voice may occur early and be present even in latent cases. Laryngeal symptoms may be the first noticeable feature of the disease, but "in the majority of cases when these symptoms appear there are already foci existing in the lungs."

Increased pulse rate. Acceleration of the pulse is an early and most suggestive symptom.

Lowered blood pressure usually accompanies symptoms suggesting tuberculosis. "The hypotension applies to both the systolic and the diastolic pressures."—(Norris).

Fever. This is an early symptom though not a very early one. Various types of fever are noticed with various tuberculous patients. The following are the more common (modified after Cornet, see James).

The intermittent type, in which the fever only at certain hours, especially in the afternoon, attains a slight elevation, while the temperature remains normal for the rest of the day. During this time of fever circumscribed flushing of the face, often more pronounced on the diseased than healthy side, may be noticed.

Remittent type, where the fever, reaching a certain height, 100 to 102 deg. F., does not return to normal, but shows a fall in temperature. The subjective symptoms in this type of fever, such as chills, sweats, flushing, hot tongue and lips, etc., are here more pronounced.

There is also a type of fever which occurs for the most part in the early stage. In this type the fever rises above 102 deg. F., is either intermittent or remittent, and is characterized by actual paroxysms and great variations, even of 6 deg. F. or more, within several hours.

Sometimes a kind of temperature is encountered called typus inversus. In this type the temperature, instead of the ordinary evening exacerbation and morning remission, as is the rule with the tuberculous patient, occurs in the morning or forenoon and falls towards night. This form of fever is very rare and, when present, passes over sooner or later into the normal type.

The fever in various patients may vary in the height it reaches. The higher the point of temperature the fever reaches, and the longer it lasts, accompanied by proportional severity of subjective symptoms, the less the hope for even a temporary arrest of the process.

Fever always indicates that absorption of toxin is going on in the body, and is directly proportional to the amount of toxin absorbed by the body. It also indicates a rapid advance of the process of caseation. If the fever cannot be overcome it indicates an acute course and may tend to a fatal outcome (Phthisis Florida). Early phthisis may be afebrile. Rivière states that a subnormal temperature in the morning on awakening is sometimes characteristic of phthisis.

Emaciation. Loss of weight is very characteristic and is a fairly early symptom. Being that fever is one of its greatest etiologic factors, with the removal of that symptom and arrest of the progress, the patient begins to gain in weight, while progressive loss of weight is fatal. Cornet says that the loss of weight facilitates an increase of absorption of toxin and with it fresh rises of temperature. It seems, therefore, that emaciation favors the increase of fever and vice versa.

Physical Examination.—Inspection—Hair. Many authorities believe that the hair in the patient with incipient tuberculosis is usually lustrous, of fine texture, and generally possess all characteristics of being beautiful. This may be true, but not as a rule. I believe that this kind of hair belongs to the emotional type and the latter is more predisposed to tuberculosis than the non-emotional, and is therefore met more frequently in practice. As the disease progresses the hair may become brittle, prematurely gray and may fall out.

Eyes. Conjunctiva pale. Sparkling eyes with the afternoon temperature may be noticed. The pupils are occasionally widely dilated, frequently unequal, the one on the affected side being more dilated and more sluggish to the reaction of light.

The face may be flushed, especially during the afternoon temperature, the face of the side affected being more flushed than the other one.

Lips. Usually dry.

Gums may be reddened or a bluish red line is sometimes found along the margin of the gums.

Teeth. Decay of teeth is especially common in tuberculous patients.

Neck. Thyroid frequently enlarged. Slight swelling of thyroid gland is one of the earliest symptoms of tuberculosis.

The skin is very often not changed and may be of a good color. Sometimes it is of a muddy complexion, due, I believe, to poor oxidation, poor drainage of the

body sewers and autointoxication due to the general tuberculous toxemia. Patches of light yellow to pale brown pigmentation is very often seen in many incipient cases and is an early symptom. "Dermagraphia is shown nearly by every tuberculous patient."

The finger nails "in a large majority of patients are tri-colored, a band of red being at the tips, the lower end just above the half moon being blue and the space between being white" (M. Solis Cohen). Transverse ridges on the nails suggest developing phthisis. "If there is a definite transverse ridge on all the nails about halfway along each, the patient was in bad health between three and four months previously. . . . Quite often the dystrophy is due particularly to the effects of developing phthisis" (French).

Chest. Lagging of the part affected is usually observed. Delayed respiratory movements is an early symptom. Unilateral diminution of diaphragmatic movement is an early symptom of apical tuberculosis.

"Dilated venules near the side of the lower cervicals and upper thoracic vertebrae have great significance" (Crofton).

Local flattening of chest is very often observed. In some women diminution in the size of the breast of the side affected may be noticed, especially in the latent form of tuberculosis.

Palpation. Deficiency in expansion at the apices is noticed on palpation by putting hands over subclavicular spaces when the patient is asked to take a deep breath. "Relative mobility of the two sides can be accurately judged by placing the fingers in such a manner as the thumb should be in the supraclavicular fossa and fingers in subclavicular fossa, the examiner standing behind the patient. . . . Disease at an apex though early and before dullness is at all marked, may be indicated by deficient expansion" (Osler). Tactile fremitus is markedly increased over the affected areas. Vocal fremitus is also markedly increased. James says that infiltration of the anterior margin of the left upper lobe permits one to feel, on palpation, the closure of the semilunar valves in the pulmonary artery and the more the process is advanced the more marked this phenomenon becomes.

Percussion. According to M. Solis Cohen the lesion must reach a certain size before it produces any change in percussion note. Same is stated by Cornet. Croftan says that in early lesions of tuberculosis physical examination of the chest gives nothing definite, while "slight changes of light percussion (and dilated venules near the side of the lower cervical and upper thoracic vertebrae) are said to have great significance, but there is no certainly recognisable change on inspection, palpatation, percussion and auscultation." Osler also says that in incipient cases percussion may be negative. He, however, gives valuable information in regard to percussion for the diagnosis of early tuberculosis. This information on account of its considerable importance, in my opinion, will be put before the reader in its proper place. Other authorities such as Aufrecht, Krönig, Rivière of London, Abrams of California, etc., rely mostly on percussion. Aufrecht says that percussion offers positive information much sooner than ausculation. Krönig says it is a very wide-spread error to expect to find the earliest physical sign by auscultation. According to Fishberg phthisis does not begin as a catarrh of the small bronchi but is an infiltration transforming the normal porous air containing and resonant lung into solid, non-resonant tissue.

Valuable Signs of Percussion in Diagnosis of Early Tuberculosis.—Riviere's Sign. "If gentle percussion (for by heavy percussion we may produce an artificial impairment by the 'lung reflex contraction' of Abrams*) is applied up or down the back in a case of pulmonary tuberculosis at whatever stage, it will be found that bands of slight impairment are present at the apex, and also across the lower scapular region on both sides. The upper of these bands reaches down to the level of the junction between the first and second dorsal vertebrae, the lower extends between the fifth and seventh dorsal spines. If the back of a healthy person be similarly explored it will be found that these bands of percussion impairment are absent. * * * There is very rarely an exception to this sign. The reflex band above described is also present in all marked cases of nasal disease particularly if accompanied by obstruction."

Krönig's Sign or Krönig's Isthmus. Krönig's isthmus is a band of resonance which crosses the shoulder. Its narrowest point is at the top of the shoulder, and in both front and back it widens out to meet the extended areas of resonance beneath the clavicle and supraspinous fossa. The value of this sign arises because of the well-known tendency of the lungs with a developing tuberculous focus to shrink" (Norris and Landis).

"The isthmus in health is generally 5 cm. across and should not fall below 4 cm. These changes may precede auscultatory signs, and also symptoms such as cough and expectoration.

"A blurring of one or other or both margins of the resonant area suggests early phthisis." (Rivière.)

To facilitate Krönig's area in doubtful apex lesions in tuberculosis Krönig advises to give overnight morphine or codeine to suppress the night cough and to delay the morning clearing of accumulated expectoration. (Abrams.)

In hilus tuberculosis both reflex bands ond Krönig's isthmus are present and besides these signs parasternal and paravertibral dullness or both may also be present. (Rivière.)

According to M. Solis Cohen the shortness of the duration of the percussion note is an important sign in early tuberculosis. The first change indicating tuberculous infiltration is usually a shortening of the duration of the percussion note. Percussion of same spot to be done during inspiration and expiration as in the very early lesion in the apex, according to Aufrecht, the note is clearer on inspiration and duller on expiration.

Osler states: "One of the earliest and most valuable signs is defective resonance upon and above a clavicle. In a considerable proportion of all cases of phthisis the dullness is first noted in these regions. The comparison between the two sides should be made also when the breath is held after a full inspiration, as the defective resonance may then be more clearly marked.

In the upper lobe the primary lesion is not, as a rule, at the extreme apex, but from an inch to an inch and a half below the summit of the lung, and nearer to the posterior and external borders. The lesion here tends to spread downward, and this accounts for the frequent circumstance that examination behind, in the supraspinous fossa,† will give in-

*The lung reflex contraction of Abrams: When the chest wall is violently concussed with a heavy mallet and pleximeter a circumscribed lung contraction occurs adjacent to the area struck. This contraction reveals itself by impairment to percussion.

†Compare Alarm area of St. Chauvet (see page 285 further.)

dications of disease before any evidences exist at the apex in front. Anteriorly this initial focus corresponds to a spot just below the center of the clavicle. The direction of extension in front is along the anterior aspect of the upper lobe, along a line running about an inch and a half from the inner ends of the first, second and third interspaces. A second less common site of the primary lesion in the apex 'corresponds on the chest wall with the first and second interspaces below the outer third of the clavicle.' The extension is downward.

"In the involvement of the lower lobe the first secondary infiltration is about an inch to an inch and a half below the posterior extremity of its apex, and corresponds on the chest wall to a spot opposite the fifth dorsal spine. This involvement is of the greatest importance clinically, as 'in the great majority of cases, when the physical signs of the disease at the apex are sufficiently definite to allow of the diagnosis of phthisis being made, the lower lobe is already affected.' Examination therefore, should be made carefully of this posterior apex in all suspicious cases. . . . In thin subjects the percussion should be carefully practiced in the supraspinous fossal and the interscapular space, as they correspond to very important areas early involved in the disease."

It should be remembered that in girls and women wearing tight corsets the lesion may begin in a lower lobe of the lungs.

Kintzing says, "The first positive sign of infiltration is dullness and its most usual seat is immediately underlying the clavicle. It is most surely discovered by direct percussion on that bone, without intermediation of the pleximeter, although it may require a cultivated ear to detect the change. Its note is higher and shorter than normal, and is the note of impaired resonance. . . . The impairment when not at the apex, is oftenest just below the clavicle. The note should be elicited during natural breathing, on forced expiration, on forced inspiration and with the mouth held open as directed by Flint. A comparison made between corresponding areas while the breath is held after forced inspiration, most surely detects defective resonance, when present."

Auscultation.. Crofton says that this may give a slightly prolonged expiration or slight modification in quality of the sounds, but no definite diagnosis can be based on such changes. The earliest auscultatory sign is, generally speaking, feeble breathing; prolongation of expiratory murmur is next in order. Osler says, 'feeble breath-sounds are among the most characteristic early signs. With early apical disease the inspiration on quiet breathing may be scarcely audible. Expiration is usually prolonged. On the other hand there are cases in which the earliest sign is a harsh, rude, respiratory murmur. Witn these changes in the character of the murmur there are râles. . . . Such râles which are brought out by coughing, which persist, and are repeatedly heard at the same spot are of the greaest importance.'

Rivière advises the following: "In auscultation first note whether adventitious sounds are present during quiet breathing; if this is so, and especially if they accompany both inspiration and expiration, the case is no longer early. If they are absent, deeper breathing will be tried and their presence or absence noted. Finally, cough or, btter, two or three coughs at the end of expiration, will be tried, and the inspiration following carefully investigated. Especially should this manoeuvre be tested over the apices in front, both above and below the clavicle, and behind over that part of the supraspinous region described by St. Chauvet as the 'alarm area.' This spot lies midway on a line drawn from the space between the seventh cervical and the first dorsal spinous processes to the tubercle found on the spine of the scapula about the junction of its inner and middle thirds."

In cases in which incipient tuberculosis is suspected but râles cannot be detected at first examination, administer potassium iodid for several days (7½ gr. tid). The effect of this drug is often to make râles more distinct. (It is also used to increase expectoration to facilitate examination for tubercle bacilli).—Cabot, Abrams, Rivière. Besides these adventitious sounds, mention should be made here of Da Costa's sign in early tuberculosis: A murmur is at times present in the pulmonary artery long before any other physical indication of tuberculosis is discernible. (Recollect similar phenomenon of feeling closure of semilunar valves of the pulmonary artery, by palpation, in case of infiltration of anterior margin of left upper lobe.)

Diagnosis. A careful study of the physical signs and symptoms will materially help diagnosis. X-ray is of immense value. Then the various reactions devised for the diagnosis of active tuberculosis may be summoned in doubtful cases. These I will just mention, putting them in the order of their sensitiveness.

The intracutaneous tuberculin test of Mendel and Mantoux,

The cutaneous tuberculin test of von Pirquet,

The subcutaneous tuberculin test discovered by Koch,

The percutaneous tuberculin test of Moro and Doganoff,

The conjunctival tuberculin test of Wolff-Eisner and Calmette. (Kolmer.)

Besides these we have at our command the following. (These will not be described, due to lack of space.)

1. Sputum analysis for tubercle bacilli,
2. The albumin reaction—analysis for albumin in the sputum of the tuberculous patient, and the
3. Auto-urine test for tuberculosis—intradermal injection of urine.

1. Tubercle bacilli—the significance of their presence is well known. French says that the presence of acid-fast bacilli in an ordinary sputum film is very nearly proof positive of tuberculosis of the lung.

2. The albumin reaction. Rivière says, "Practically all cases of active pulmonary tuberculosis contain albumin in the sputum." The presence of albumin in doubtful early cases of pulmonary tuberculosis helps to support this diagnosis.

3. The auto-urine test for active process of tuberculosis. This test was demonstrated by Wildbolz. It is carefully described in the Journal of the A. M. A., August 13, 1921, in the Queries and Answers, page 570.

Differential Diagnosis. The number of diseases to be differentiated from tuberculosis is too great to be enumerated here and will therefore mention only a few of the more important. Influenza, bronchitis, pleurisy with effusion; abscess, gangrene, syphilis, tumor and infarct of lung; chlorosis, nervous dyspepsia. debility; malaria, Graves' disease, etc.

Prognosis. Incipient tuberculosis, if early recognized and properly managed, is, of course, favorable, and,

as Cornet says, of the possibility of a cure there can be no doubt.

Treatment. When the case is established to be one of incipient tuberculosis it is not necessary to send the patient immediately away for fresh air, as is usually done. First treat the patient at his home preparing him for the country place where it may be necessary to send him, advising him how to live, what to eat and what to do in order that he may get well. The treatment comprises the following: Diet, hydrotherapy, hygiene, exercise and deep breathing, fresh air and exposure to sunlight, and medication.

Diet. The two extremes in diet as pertaining to diseases are overfeeding and fasting. The first is advocated by the majority of physicians in the treatment of tuberculosis, and there are cases of recoveries on record due to overfeeding. This method may be applied, very carefully and by grades, to some patients, but generally I do not advocate this method. Sabourin of France in his "Rational Treatment of Tuberculosis," states that he became convinced of the harmful effects of overfeeding. He believes that not a few patients failed to recover who would otherwise do so, and says that overfeeding was suspected as the cause of the unfavorable happenings. As to fasting in tuberculosis, maybe there are some reliable authorities who do advocate this method, but I did not come across a *reliable* authority who would advocate such a method. I had, however, the occasion to study just one tuberculous patient who was fasting. He did so not because he used fasting as a method of cure, but because of great poverty. I witnessed him many a time relish greatly a piece of bread with an orange, which made up a meal after nearly a 24 hours fast (or even longer). He told me that he thinks the person who never hungered cannot know the real taste of food, especially of a piece of bread, which is so tasteless to nearly everybody. He felt that every crumb of bread and every drop of juice were a healing to his mind and body after suffering hunger for many hours. The man is now apparently healthy and attends to his responsible task. He believed that the hunger he often suffered during the long period of his sickness had a favorable influence upon his condition, and this may be true on account of the feeling of great taste in his most simple food due to hunger. I wish to remark that this patient was a highly intelligent and intellectual personality, a feature which may be important in such a rather peculiar case.

Well, perhaps judicious fasting applied most carefully could be of great use in the treatment of tuberculosis, but the possible harm from overfeeding and the difficulty and great responsibility in using fasting induces me to employ the golden rule, "est modus in rebus."

Generally speaking, the diet for a tuberculous patient should consist of nourishing foods, such as various kinds of vegetables, meats, whole wheat bread, butter, milk, butter-milk, etc. There is nothing particular that I intend to say about the diet in early tuberculosis, with the exception of the following. Very early breakfast, not later than 6 A. M., is of great importance. The Talmud advises early breakfast as a general means of strengthening the body. The famous proverb of the great Franklin, "early to bed and early to rise makes a man healthy, wealthy and wise" is a good rule to be adopted by the tuberculous patient. This breakfast should consist of whole wheat bread, fruit and pure cold water and should be of a very moderate quantity. The patient may have this breakfast in bed. A short time after this early breakfast he proceeds with his hydrotherapy (see further), after which he gets a substantial breakfast. At this breakfast, as well as at lunch and dinner, various kinds of vegetables should be used. Vegetables, especially fresh ones, are of great importance in the diet for tuberculous patients. Setter and Mehring in Zeitschrift für Tuberculose, Leipzig, state that as soon as fresh vegetables come into the market the mortality in tuberculosis drops. (Journal A. M. A., July 16, 1921.) A daily dish (or five-six times a week) prepared of breast bone and leg of a young animal, veal or sheep, should be used. The importance of this dish is discussed further (see Medication).

Hydrotherapy. This consists of the most simple application of water, in the following way:

1. Wet towel rub, 2. Ablution, 3. Walking bare-footed on wet floor or ground.

1. Wet towel rub to be practiced as advised by Baruch: "In the early stage of this disease (Tuberculosis) simple rubbing of the trunk with a towel wrung out of water at 90° F. and reducing the temperature of the water one degree at each treatment, so long as the patient does not complain of chilliness after he is dressed, is the most useful procedure. It should be given or taken by the patient himself just after he steps out of a warm bed into a warm room. The towel is grasped at each end and passed to and fro over the back in both directions, with several renewals of the cold water wringing of the towel. A warm room is essential to promote reaction. The entire trunk should be treated, the extremities being omitted. The water temperature should not go lower than 70° F. When this point is reached it is more effective to double the quantity of the water used than to reduce its temperature, because a longer treatment prolongs the effect. Colder water would be more stimulating, which is to be avoided; an enduring tonic action is more desirable."

This towel rub serves both as an hydrotherapeutic measure and as a good exercise, if the patient does the rubbing himself. As soon as he is through with the wet towel rub he covers his chest very warmly and proceeds with ablution.

2. Ablution. This is limited to the extremities only. Water from a pitcher or basin is poured on the legs from above the knees, and upon the arms from above the elbows. The water is of the same degree as is used for the wet towel rub.

3. Walking bare-footed over wet floor. For this purpose water is poured on floor, of same degree as for ablution, and the patient walks over the well-wetted floor for a few minutes morning and before bedtime.

After the hydrotherapeutic treatment it is advisable, in my opinion, that the patient should rest, well covered up, for a short time, until he feels perfectly dry and warm, then go into the open air, for some-patients having a tendency to "take cold" may do so by going out into the open air especially when the body is still damp after the water treatment. Sabourin advises same, while Baruch sends the patient into the open air after the hydrotherapeutic treatment. as seen from the following quotations.

"Upon awaking, the patient, still warm from his sleep, removes his night clothing and pulls the bed covers up over the bed to keep the latter from getting cold. Standing up in the tub he takes a wet

sponge. . . . he leaves the tub, puts on his bath robe without rubbing his body, merely dries his feet carefully with a towel, and gets back into the warm bed."—(Sabourin).

"Sitting in an empty tub in a warm bathroom, the patient receives a pitcher or basinful of water at 90° F. . . . The temperature is diminished one or more degrees at each treatment, which may be given twice a day. The patient should go into the open air after treatment." (Baruch).

Hygiene. Cleanliness of skin and teeth is of great importance. For the former frequent bathing in bath tub with warm water and soap, preferably before bedtime, is advisable. For the latter cleansing the teeth with fruit juice, such as lemon and orange, etc., should be practiced in the morning, before food is taken, and before bedtime.

The food should be well masticated and taste be searched for during chewing.

Water should be freely used for drinking, especially between meals and in conjunction with fruits. The water dilutes the poisonous matter which is in this way carried out of the system. At the same time it helps to establish a normal bowel movement.

The bowels must be kept in good order, for constipation, as well as diarrhea, is the enemy of the tuberculous patient. Sabourin says that laymen seldom realize the serious disadvantages, or even dangers, attending inveterate constipation. Among the tuberculous, as elsewhere, there often result headaches, migraine, gastric disturbances, sensations of weight, pain, flatulence, malodorous breath, loss of appetite, more or less persistent nausea and subsequently abdominal disorder, colic, borborygmi, lumbar pain and griping. . . . There are some patients, male or female, especially the latter, who, harboring pulmonary lesions in an advanced stage of recovery, are unable to complete the closure of these lesions from the mere fact that they are constipated.

Exercise and Deep Breathing.—A tuberculous patient who has had fever in any part of the day should not exercise, "as such a practice is often followed by deplorable results." Patients who are entirely afebrile should start very gradually the practice of exercise. This should consist of the following: Walking, horse riding, automobile riding, and various bracing-up exercises. All these exercises should be accompanied with simple deep breathing, which should be practiced carefully and by grades, stopping short of fatigue. The inspiration should be slow and steady and through the nose, while expiration should be more rapid and through the mouth. Breathing exercises may also be practiced as advised by Bier: "Inhale through nose with slight compression of same by the finger, and then allow unobstructed exhalation through the mouth. This causes a passive hyperemia of the lungs." Kuhn's lung suction mask is used for the same purpose (Willy Myer-Schmieden).

Abrams advises respiratory exercises in the following way: "During rest, forced inspiration (which increases the volume of blood in the lungs) must alternate several times a day with séances of rapid breathing as though an effort were made to make inspiration and expiration as short as possible. This exercise is similar in action to the mask of Kuhn."

Fresh Air. Not much is necessary to say about this great necessity for the tuberculous patient. It is, of course, best for the patient to live in pure air both day and night. According to Cornet "the consumptive derives benefit from the open air not only when it is sunny, dry and the wind quiet, but no less when it is cloudy, damp and the wind and rain are at work; snow and rain do not forbid sojourn in the open." My opinion is that damp and rainy weather is harmful for the consumptive, especially the more so when he is in the country and surrounded by abundant flora. A consideration of the following will throw light on the writer's opinion. It is the work of the lungs to take up oxygen from the air by means of inspiration ad remove the CO_2 by means of expiration. The inspired air loses about 5% (4.78%) of oxygen; the expired air gains CO_2 nearly the same amount—4.38% (Physiology, Brubaker). Now during sunshine in places where trees are abundant oxygen is in abundance, as in sunshine the trees give off the greatest amount of oxygen while the CO_2 of the air is taken up by them. Thus the air is in this way purified and is more ideal for the sick lungs. The respiration for the consumptive is thus facilitated in the presence of sunshine and trees. In damp and rainy days the reverse is the condition. Trees then take up oxygen from the air and give off CO_2. This condition makes it a difficult task for the tuberculous lungs to perform their work. The same phenomenon takes place at night. The trees then, too, take in oxygen and give off CO_2. I believe, therefore, that it is necessary for the tuberculous patients to stay indoors during rain, dampness, and at night, especially when they are surrounded by trees. The windows should, nevertheless, be open.

The following incident is a good illustration. I happened once to be with a consumptive at twilight in an orchard. As we walked along he started to cough violently. He told me that he suddenly felt a sharp irritation in his throat and difficulty in breathing at the place we just approached. A careful observation convinced me that that place was very damp; we immediately left it. The consumptive recuperated as soon as we were some distance away from the wet ground.

Another illustration. Professor Zhuk of the University of Moscow tells the following in his great work, "Mother and Child." Many years ago there was in Russia a very rainy summer and fall. Coincidently with this thousands of babies living in the forests of that country were dying and nobody seemed to know the cause. In Germany at that time lived the great Professor Lohmann. He stretched his hand from his country into Russia for the sake of rendering help to those babies. He advised that the habitants of the forests should move out of their places, giving the sole cause of the death of the babies the lack of oxygen due to contiuous rain in those forests (in accordance with the theory above stated).

In cities the fresh air treatment may be carried out on roofs, or using Dr. Knopf's window tent or his "star nook" outside sleeping cage adopted to city conditions.

Exposure to Sun. "The open-air treatment," says Sabourin, "must be carried out in the shade, not in direct sunlight. The patient should see the sunlight, but not let the sun see him." Cornet says that prolonged exposure to the heat of the sun, especially in summer, when the rays fall vertically, is in many respects injurious, and not rarely causes congestion of the head and lungs and coughing of blood, and the patient should therefore seek the shade. I believe much in "the healing power con-

tained in the wings of the sun." It should, of course, be applied with caution. It is contraindicated where there is fever or where the sputum is even slightly blood tinged, or where there is a tendency to hemoptysis. In the absence of such symptoms graduated exposure of the body to the sun rays, increasing daily the time of exposure, may be of great benefit. The head should be protected by a hat with a broad rim, made of material of red or orange color or containing a lining of same, or a shade of same should protect the head. I believe with Gauvain and others, that sunlight, carefully and properly carried out, is an important help in the treatment of pulmonary tuberculosis, and is especially useful in the treatment of incipient tuberculosis. Singer, as stated by Abrams, concludes from an extensive experience with the use of sun baths in tuberculosis that they are of diagnostic and prognostic value, and the deeper the pigmentation following exposure to the solar rays the more likely will the patient improve or become cured.

Various Other Treatments. Posture method by the double inclined table constructed by Dr. Wise to encourage drainage of the lung and induce artificial hyperemia of the apices by the force of gravitation (Caillé).

"Autotoransfusion," by the reclining chair of Jacoby. By this method hyperemia in the lungs is induced by lowering the upper part of the chest.—Abrams.

Speaking of hyperemia it is well to mention here Kuhn's mask to produce Bier's hyperemia of the lungs. The mask is used in the morning and afternoon for ten or fifteen minutes, but later this time is extended to one hour or more.—Abrams.

Posture treatment by simply sleeping and resting mostly on the side of the lung involved with a short pillow under that side is advised by some authorities. This I believe also causes a passive hyperemia of the diseased lung.

Tuberculin Treatment. This gives best results in the initial stage of tuberculosis before mixed infection sets in.—(Caillé).

Tuberculin-Strychnin Treatment. It is claimed that strychnin given subcutaneously in combination with tuberculin enhances the value of the tuberculin treatment.—(Caillé.)

Electricity. Eberhart advises the high frequency and he believes that in auto-condensation and ozone we have two remarkably effective remedies for pulmonary tuberculosis.

Medication. Creosote. Forchheimer says that creosote improves appetite, digestion, reduces expectoration, diminishes the number of bacilli and acts beneficially upon the lymph nodes. At the same time he also states the following: "The objections to the use of creosote are that it cannot be taken at all by some individuals and that at times it does harm. . . . Not only do the odor and the local symptoms do harm, but the drug itself does harm in individual cases in a way entirely inexplicable, from individual predisposition, so-called idiosyncrasy. In a certain number of cases it entirely fails to do good. Thus for all these reasons the administration of creosote in pulmonary tuberculosis cannot be carried out."

Sabourin does not attach any particular value to the creosote medication. Sajous says, "The untoward effects of *therapeutic* doses of creosote are manifestly chiefly in gastro-intestinal disturbances and in discoloration of the urine." Fishberg, as mentioned by Sajous, "considers creosote contraindicated in all febrile cases of tuberculosis in which the temperature reaches or exceeds 100° F. as well as in all progressive cases, because it is in these that the drug is most apt to cause general and local reactions." Sajous also mentions a case of Zawadzski—a woman of 42, who died after taking 18 drops of creosote in 24 hours, according to a prescription for 6 drops tid. Generally speaking, creosote has a more or less detrimental effect on the following organs: stomach and intestines, kidney (as it is excreted by that organ, Potter), and pancreas. The latter becomes overstimulated by creosote and does not furnish its secretion properly. Finally, the liver is also affected.

"Unfortunately, as frequent aftermaths of the good action of creosote, the pancreas becomes overstimulated by the drug and does not furnish its secretion properly; there is intestinal indigestion; the liver is disturbed; there are stomach indigestion and loss of appetite, and the patient will lose weight faster than he gained it under the creosote treatment. Too much creosote will also irritate the kidneys, and may cause albuminuria. In other words, it generally does not seem wise to recommend creosote, as such, internally in pulmonary tuberculosis" (O. T. Osborne and M. Fishbein, "Handbook of Therapy.") It is clear, therefore, why, as Cushny states, the medical profession today seems to have much less faith in the efficacy of the creosote treatment than it had a few years ago.

Guaiacol.—Guaiacol is usually used as a substitute for creosote. I knew that in Europe thiocol was considered superior to guaiacol in the treatment of pulmonary tuberculosis. In my practice I seldom use creosote or guaiacol, as thiocol, in my opinion, does for the tuberculous lung what is expected from creosote but without the drawbacks of the latter. I usually administer it, as was advised by European physicians, 3-5 gr. tid. or oftener, but as much as 20-30 gr. doses tid. were taken by some of my patients without any untoward effect. I would suggest that creosote should be administered by inhalation, while at the same time thiocol should be given by mouth. The following formula of Dr. Caillé for inhalation in the treatment of tuberculosis is of good service:

℞	Creosote	3iss
	Menthol	3ss
	Ol. Eucalypti	3iii
	Tinct. Benzoin, co.	3iiss

Sig. 3i added to one pint boiling water and inhaled from a croup kettle.

Iodin. Crofton states that this medication should be given in the form of iodoform, which, as shown by Hamburger, markedly increases the phagocytic power of leucocytes.

Arsenic. This is considered useful by many authorities.

Tannin. This drug is considered of some value by Sabourin. It is also advised by Cornet.

Garlic is mentioned by Cornet. He administered it by rectal injections without effect. I believe that this vegetable should be administered by mouth. Its value as a germicide and its good effect upon the circulation is mentioned in the Talmud.

Thyroid Gland, in doses of 1 to 3 gr., increased gradually to 5 gr. tid., is advised by M. Solis Cohen and others.

Adrenalin. Hypodermic injection daily of adrenalin is advised by Abrams to aid vascularity of the lung.

Sapo Vididis (soft green soap) is also advised by the same authority (Abrams) for inunction one dram once or twice daily.

Calcium Salts. I am greatly inclined to believe that demineralization, especially decalcification of the body, is a great etiologic factor in tuberculosis. A person suffering from tuberculosis should be regarded demineralized and therefore treated as such. Osborne and Fishbein consider the problem of demineralization in tuberculous patients very seriously, even more so than many other authorities. They state, "It has long been thought that patients suffering from tuberculosis have previously become demineralized. This means especially that they have lost their calcium, and perhaps phosphorus, equilibrium. It is also true that tuberculous lesions heal by more or less calcification. Also, patients are more likely to have hemorrhages, if their calcium blood-content is diminished. Certain it is that patients, especially children, often improve with increased amounts of calcium in their food or as a medicament." I believe the value of calcium salts is three-fold. It is necessary in the healing of the wound of the lung; it assists in the formation of "the barrier" for the limitation of the further spread of the disease; and lastly, the calcium salts, diluted in the body fluids, render innocuous the poisons produced by the tubercle bacilli, being at the same time detrimental for the latter.

The question now arises how shall we administer calcium salts in the most suitable form? The calcium salts we get in the drug store are with difficulty assimilated by the body. Sabourin says, "The reclalcifying regime, as it is called, is a useful measure. It remains to be ascertained whether the lime phosphates upon which it is based actually do play the capital therapeutic role that is being expected of them. For it cannot, perhaps, yet be said to have been well shown that the human organism assimilates phosphates that have not previously been prepared for it through activities of the vegetable kingdom." Indeed, the calcium salts contained in vegetables are most assimilable by animals. But what about the calcium salts in milk? We know that these, too, are also highly assimilable by animals, and as Osborne and Fishbein state, "the great value of a proper amount of milk for tuberculous patients is probably the calcium and phosphate content." Thus the animal body is not limited in its ability to assimilate only such phosphates that have "previously been prepared for it through activities of the vegetable kingdom." But to get the proper amount of salts by using vegetables and milk only a great amount of them must be consumed by the patient, (one liter of milk includes approximately three gr. of calcium), while I believe that calcium salts can be administered in still another suitable but more concentrated form. In connection with this I suggest that calcium salts be administered in the form of fresh cooked soft bone (such as breast bone or soft portion of long bone) of young animals which presents the calcium salts in their natural form.

Now marrow, whether the red or yellow, is very useful for the tuberculous patient. Also gelatinous food, because it increases the coagulability of the blood (as the latter in tuberculosis is generally decreased) is also useful for the phthisical patient.

All these three important items in the diet of the consumptive (calcium salts, marrow, and gelatinous matter) are offered to the latter in the leg of a young animal, wherefore a diet prepared of leg (and breast bone) was advised in the Diet (see page 29 above) for the tuberculous patient.

The softest parts of the bone of the well cooked leg, also of breast bones, of a young animal can be thoroughly chewed (or ground), the marrow expressed in the mouth and swallowed; likewise some of the bone now consisting of minute particles should also be swallowed with sips of soup or hot water. Enough of the various calcium salts and phosphorus is in this way taken in and assimilated by the body. The gelatinous material contained in the various tissues of the leg, in conjunction with the calcium salts of the swallowed bone, will help to prevent hemoptysis, while the bone marrow will "stimulate the action of the hemopoietic system, increasing both erythrocytosis and leucocytosis. Bone medulla is an adjunct in the treatment of tuberculosis"—Harrower). It is mentioned in the Talmud in a general way that leg is good for the lungs. I have seen good results by administering calcium salts by the method just described.

Cod Liver Oil. This oil contains iodin and various important salts. According to some authorities it is said to possess the property of assisting in the assimilation and retention of phosphous and calcium salts taken in by animals in any suitable form. It also contains the fat soluble A in a quantity more than any other foodstuff, except butter (Journal A. M. A., Aug. 13, 1921. Queries and Minor Notes. Answer, page 571). If this be true, cod liver oil may be regarded as an important adjunct in the treatment of tuberculosis where the administration of calcium salts in the best form possible is one of the essential points in the treatment of this human scourge, especially so in its early stages.

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The Hospitals and Venereal Diseases.

The trustees of the American Hospital Association have passed resolutions urging that "all general hospitals admit venereal-disease patients as other patients and enter these diagnoses as other diagnoses on histories whether primary or complicating and also develop sufficient dispensary service to provide care for the ambulatory cases and the ambulatory stages of the cases treated in the hospitals."—(*Social Hygiene*, July, 1921.)

THE DELINQUENT GIRL—ONE OF OUR LIABILITIES.*

DEACONESS VIRGINIA C. YOUNG
New York.

There is one subject that I know well; it is the delinquent girl. I have lived with her and I have gone further than Shylock who said to the Christian, "I will buy with you, sell with you, walk with you, talk with you, but I will not eat with you"; I have eaten with her. I have known her intimately, about 1,600 of her, and several hundred of her little illegitimate children.

There are certain great fundamental basic facts inherent in all men; these we may call the warp of life. Then there are other facts dependent upon birth, environment, education and other surroundings of our lives which is the woof and makes us different one from another. It is not the facts of life that are different, but the interpretation of them that makes the difference between the idealist and the materialist, between the imperialist and the democrat, between the optimist and the pessimist. The delinquent girl is like us but she has taken a different view and gone in a different direction.

I have an acquaintance who has been assisting in the preparation of a paper on abnormal psychology and in the course of this work she came upon some statistics on the school children of Ohio. We have thought of Ohio as the producer of presidents and other fine and capable citizens. So I was impressed when I heard that one-fourth of the children of Ohio are sub-normal and another one-fourth are on the borderline. When Uncle Sam sounded the bugle call there were many thousands of girls as well as boys who answered the call, and, perhaps impelled by a mistaken patriotsm, when the camps opened they were there, and became a vital problem to the men who were trying to whip the raw material they had into soldiers. No provision had been made for dealing with them and in most cases they had to be put in filthy cells, unsanitary and vermin-infested; they were poorly fed and conditions were very bad indeed. Philanthropists had been working on the problem of the delinquent girl for years and they had accomplished little, but the war "did the trick." These new judges in the army camps began to demand that a fairer attitude be taken toward these girls. They insisted that they be better cared for and Congress was persuaded to appropriate a large sum of money for the erection of proper housing for them. It was my privilege to assist in starting one of these at Newport News, one of the largest ports of debarkation. This has become a permanent home for delinquent girls and this has happened to many of such places throughout the country. Last winter I visited thirty institutions throughout the West and came back thrilled by the type of women in charge whom I had seen everywhere, women who had withdrawn from the world and given up practically everything for this work, and were shut up with groups of delinquent girls. They were in every way enthusiastic about their large families. They were really mothering these girls, who had never been mothered before. I think, as you know, more about these girls you will agree with me that these liabilities may become assets. You have one of these institutions at Hudson. One woman has been there for twenty years and the school is a monument to her character and ability. It would compare favorably with any private school. There is another home in New Jersey with another splendid woman, Mary Harris, at its head. I always like to tell about her because in college she made a specialty of Roman coins and Sanskrit, and she has applied the same sort of brain to a subject no less complex, the delinquent girl, and she is working miracles. At Marysville, Ohio, you will find a splendid institution.

In Sark Center, Minn., is a home which has had a most wonderfully interesting experience. It makes of this unfavorable material capable women who are being asked for as wives by the farmers. The institution has 400 girls, and any man who gets one of these girls into his home gets a treasure because she has been taught the fundamentals of life, and taught them well. Mrs. Morse, the head of this institution, has the social sense unusually well developed. She claims that society having hurt these girls and put them in durance must be ready to meet them with outstretched hands when they come out. Many of these girls, after having finished the school work in the institution wanted to go to high school, so last year they rented a house in Sark Center and twenty ambitious girls attended high school and made splendidly good. At the end of the year at a special meeting the principal of the school said that quite unconsciously he had come to look to those twenty girls as the high spots in his classes for scholarship and character. This year there are going to be forty girls living in that town, living a normal, healthy life as high school students. Do you realize that we can take these girls and make them into citizens who have their place and value? And it all comes back to us and our responsibility. It is in just such groups as this one to-night that plans are made, and theories launched, and crusades started. If I can implant in you a sense of responsibility and interest you in caring for your little sisters, so many of whom are on the streets of New York tonight, and so many of whom might be turned from liabilities into assets, I shall feel that this evening was well spent. It is the attitude of society that must be changed before we can hope to change the ponderous machinery of the law or before more serious efforts at helping to solve the problem can be launched.

We are watching the birth pangs of a new era and things are going to be better. The children in the perambulators must tackle it and they are the ones who are going to do it. But we must make it a little easier for them. If you have read H. G. Wells' "History of the World" you may have noted that he points out that it is only within the last few hundred years that people have begun to look ahead and plan their destinies. Nations are beginning to think in terms of the next century. We must lay the foundations of a new world where woman is going to take her place beside man in the making of the nation.

We are coming to the time when we shall speak, not of illegitimate children, but of illegitimate parents. I do not think we shall speak any more of fallen women, but if we do we are going to be courageous enough to speak of fallen men as well. All through the State schools there is a noticeable difference in the type of crime and vice for which girls and boys are incarcerated. The crimes for which

*Abstract of address delivered before the Society of Medical Jurisprudence at the New York Academy of Medicine, April 11, 1921.

men are sent to prison are, as a rule, crimes against property, or crimes of extreme violence; it seems that we regard property as much more sacred than life. On the other hand, women we find are almost always sent to prison for crimes against her own person which are much more serious and far reaching than the crimes against property. As a woman, I should like you to consider that, for the crime is prostitution, it is the woman who is dragged into court; the man is never found by her side when the punishment time comes. I wonder if you have ever been to the Woman's Court? Thank God, it is no longer a night court! The common sight is that of a young girl arraigned and by her side a plain clothes officer. The man tells his story, and the girl has a chance to tell hers. Usually she is hysterical and frightened and not at her best. Almost always it is the man's story that is believed because he is the accredited officer of the law, and the woman is sent to prison and the man is paid his salary for having brought her there. There is something fundamentally wrong in that procedure. Up to this moment we have no better way to handle such a situation, and I do not see how we can change it until things are truly changed, as some day they will be.

In closing, let me remind you that we are all fundamentally built on the same general lines of life which are its warp. It is the facts of life and their interpretation that send people to one great camp or the other.

Discussion.

Mrs. L. Frederick Pease: In our Western towns experiments are being made in a more flexible way than we are able to make them in New York; that is, they are better able in a sense to treat them, not as a class, but as individuals. We must come to an understanding of the tremendous flexibility of human life and of the futility of snapshot judgments as to any of these problems of human nature. We have dealt largely with these girls, the girl who has fallen under the ban of the law and the young unmarried mother. We are constantly confronted with the question as to what should be the attitude toward the disposition of this girl's life. We are constantly being asked such questions as: "What is your attitude in regard to the illegitimate mother, do you think the mother and child should be kept together?" "What is your attitude as to concealing the girl's past?" "Should the girl marry the father of her child?"

We are asked these questions as though it were possible to decide these questions of human relationships offhand. When a matter concerns such a flexible thing as human life we canont decide these things by making sweeping judgments. We must always remember that it is one person's life we are considering, and that no two persons are alike. These are not matters one can decide by looking at things on the surface; we must look back at the heredity, and at the environment and at the particular crisis and these things must decide the particular line of action to be followed in the individual case.

What has interested me in the West is the way they are attempting to solve these problems in small places where they are able to take this human view and get the forces in the community to take this view and to co-operate. In this way they have been able to demonstrate that theese young girls are in essence very much like others, but had come to a particular pass, and that if given the opportunities that the ordinary girl requires, they would be very much as other girls. If she was interested in the particular work she was doing and had opportutnities for education and opportunities for ordinary social intercourse, we were able to bring out the fundamental likeness of these girls to other girls around them who did not have the ban of delinquency.

As to whether we could follow out some of these experiments here in the East which have been so successful in putting these girls back into the community in the West is somewhat questionable, not because we are more hidebound and prejudiced, but because of our greater density of population which does not permit of our focussing our attention on the girls. While these girls are fundamentally the same, on account of their handicap they require more supervision and more assistance than the normal girl. I do not know whether it might not be done in the more rural localities in the East. There is a place in Texas where the community was brought together and asked to stand behind this experiment, and they did it nobly. It behooves us to watch those experiments so that we can recast our judgments and keep from rigidity not only of judgment but of observation which is vital to the proper treatment of the problem.

Miss M. Vida Clark: I am the executive secretary of the Prison Association and have gained some knowledge of the delinquent woman. The delinquent woman has nearly always been a delinquent girl and the delinquent girl will if you give her time enough become a delinquent woman. There are few delinquent women in the New York correctional department. In the workhouse at Blackwell's Island about 300 women are incarcerated, and of these 250 have been convicted and 50 are awaiting trial. The Department is developing a reception and treatment hospital where the women are classified as to whether they are drug addicts, or general medical or surgical cases. Recently a psychiatrical department has been added. After classifying and taking care of these women from the medical side, they are sent to the State institution at Bedford or to the farm colony at Greycourt. With prohibition we have a lessened number of prisoners. These women prisoners instead of being old drunks, as they formerly were, are mostly young women and 90 per cent. of them are prostitutes between 18 and 30 years of age. Seventy per cent. of them are under 30 and in the reformation age. We have not been doing anything for htem, but are sending them to the Bedford Reformatory where they are equipped to give them industrial and academic training of various sorts.

Miss Hinkley: There are two or three things that people ought to know are needed for the care of the delinquent girl. One is that there ought to be some way to prevent people from becoming delinquent. If we had proper examiners in the schools we could weed out these children who are likely to become delinquent and prevent them from learning the tricks of the trade of delinquency. There are many who have a temperament that predisposes them to idleness and delinquency and this class of people need proper guidance. Frequently the parents are unable or unfit to give this guidance. We need parental schools where this class of people could be taught the value of law and order and due cleanliness, and to take care of themselves properly.

There is another type of people who become delinquent, the psychopaths. This class of people generally gets into the State hospitals. The war has taught us that we can have occupational therapy in connection with hospitals whether they care for physcial or mental conditions. Many patients could be helped by having an occupational therapy department in connection with our hospitals for the insane.

Then there are the defectives who learn all the tricks of delinquency. The institutions in New York State have been making raipd progress in the care of mental defectives. They have developed a colony system by which certain types of mental defectives can take care of themselves under supervision. If a community decided that it would like to have one of these colonies, we find a proper home and send out a suitable matron and we then transfer a certain number of the most capable defectives and they go out to work by the day and come home at night. In this way they provide a home for themselves, and clothes and amusements, and the home provides proper supervision. The State Commission has done much for backward counties, which are facing some of the biggest problems. If New York went up solid to the Legislature at Albany it would not have power over these counties, and until we get legislation we shall not have schools in other parts of the State such as the school you have for boys near Flushing. Until we have legislation we shall not have proper school inspection to detect potential delinquents when they are young and when they can be trained to take their places in the community. No one should be in an institution for poverty, and nobody should be in an institution who is able to maintain himself.

Under the wording of the law we are sent only such defectives as are capable of being benefited. We have no jurisdiction in saying which ones we will take, but if we find that they are mentally incapable we can return them to the county. The sheriff then takes them before the Mayor or the judge of the children's court, and these are the cases that are usually sent to institutions for defectives.

It would be interesting if everybody who talks on this subject should visit the institutions doing this work. There are now some twenty institutions of the kind in this State and it is one of the biggest educations there is to see the work they are doing.

The laws in regard to children are attached to every division of the State law and are greatly in need of codification. Our laws in regard to the care of children are most contradictory. This has been recognized and a Commission has been appointed to codify them. If we did not have delinquent children we would not have delinquent adults, so it is a question of prevention, and a great deal can be done in the prevention of delinquency if we have our laws relating to children codified. Every child has to go through the public school age, and yet we do not know how many children are going under the operation of medical inspection laws. We do know that in Dutchess County, for instance, there has been no medical inspection during the year. In New York County you do a marvellous amount of work, and in New York, in proportion to the number of children there is not as much delinquency as in some other localities.

Mrs. Cryan, Bedford College, England: I am just over from England and I am afraid we are very much behind you.

Some of our women doctors found a surprisingly large number of girls from middle class homes who were delinquent. They decided that what drove these girls to delinquency was the really few opportunities for any brightness or beauty in their lives. We have always encouraged women to admire beauty and in the race for money and power this need has often been forgotten, so these women go on the street to get money to brighten their gray lives. These women doctors sought to fill the need for brightness and a little money for these girls by opening a school where weaving was taught. The work was pretty and the girls were encouraged to make their own designs and to choose colors. At the end of a year they could earn a good living, not much but enough to live on. In ten years only three per cent. of the girls passing through the school went back to the streets again.

The Deaconess spoke of the justice of the man being punished as well as the girl. Some three years before the war a Mayor of York who was also chief magistrate took this stand. When he first became Mayor the police raided a disorderly house and arrested the women and brought them before the Mayor. The Mayor said: "Where are the men?" The police said: "We never arrest the men." The Judge then said: "There are two parties to the crime and the same sentence for both. Until you bring the equally guilty partners in the crime I cannot pass judgment." This Mayor said that if a law could be passed requiring that both parties be arrested and equal punishment imposed on both men and women, he could guarantee to close practically every disorderly house. If we can pass a law making both men and women give their correct addresses it would go a long way toward solving this problem, and they said in England that if such a law were introduced no M.P. would dare to vote against it. This law has not been proposed yet, but we really are thinking of that as the best solution of the problem and I honestly believe that if a law of that kind were passed it would be a great aid in the solution of this problem.

Deaconess Young: I could not help thinking as we have been talking that so many of these problems are problems of ignorance and stupidity. At one time I had a woman staying with me because of periodical drunkenness. On one occasion she was having a periodical attack and it became necessary to take her to the alcoholic ward at Bellevue. I had considerable difficulty in getting her into the taxicab, as she was a large, heavy woman, and she became very affectionate and told me how much she appreciated my personally conducting her to the hospital. She said: "Oh, darling, you are making one mistake; you should take me to the veterinarian hospital because I am a jackass."

CLEANSING THE NOSE.

HAROLD HAYS, M.D., F.A.C.S.,
New York.

Like all mucous membranes of the body, the mucosa of the nose should be cleaned at periodic intervals, particularly if it has become irritated as the result of some infectious process.

The method of cleaning the nasal chambers is of the greatest importance. Most people are content to douche the nose with water every morning, usually after they have performed their morning toilette. This is often done by snuffing up water to which is added a little salt. Unfortunately this procedure will result in more harm than good, for it leaves the nasal mucosa entirely unprotected. To put it another way, a mucous membrane which is completely cleaned of all mucous, becomes more exposed than it was before, so that a consequent irritation and possible infection takes place. It is not uncommon to have patients, who indulge in this practice, complain that their noses are continually feeling stuffy. The remedy is very simple. After cleansing the mucosa, it should be covered with some bland oil, preferably from an atomizer. A grain of camphor, a grain of menthol in an ounce of liquid albolene does very well. This advice applies to all douching, no matter what method is used.

There are other methods of douching the nose, other than snuffing up water, which do far more good. One must remember that cleaning the anterior nasal chambers does only half the job. The mucosa extending into the nasopharynx needs attention, too. Most of the douches recommended have so many disadvantages that one does not ordinarily recommend them. The simplest kinds are the plain medicine dropper (of great value in children) and the fountain syringe. A simple saline solution, a teaspoonful of salt to the half pint of hot water, does the work as well as the most complicated alkaline prescription. If a dropper is used, it should be half filled and the solution allowed to flow gently through the nostril into the throat and then expectorated. If the fountain syringe is used, the bag should be suspended but a short distance above the head, so that the solution does not flow in under too great pressure. Under all circumstances one must be careful that no water is forced up the Eustachian tubes, into the ears, which may occur if the nose is blown too forcibly after douching.

By far the best douche to use, especially if the nasal mucosa is at all inflamed, or if there is retained mucopus in the nose, is what is called the Nasal Syphon douche. This consists of the ordinary fountain syringe with proper nasal attachment which fits into one nostril. A second long piece of tubing runs into a basin on the floor or into a bath tub. To this also is a suitable nasal piece attached. The bag containing the solution is suspended slightly above the head and the nasal piece applied to the nose. As soon as the solution begins to flow, running through one nostril, into the naso-pharynx and out of the other nostril, the second piece of tubing, with the nasal attachment, is applied to the other nostril. The length of this second tubing creates a certain amount of suction, which draws upon the retained mucus, not only in the nose but in the sinuses as well.

The suction is in direct proportion to the perpendicular drop of the outlet tube and if it is desired to decrease this suction it is only necessary to raise the outlet end of the tube to a higher level or cut it off. If the outlet tube is cut in half the suction is reduced by one-half. After the douching is completed, the head should be suspended over a basin to let out any excess of fluid. The nose should not be blown forcibly for some hours. And what is of equal importance, the nasal chambers should be thoroughly sprayed with some bland oil.

2178 Broadway.

Surgical Treatment of Lesions in Internal Genital Organs.

The treatment of puerperal streptoccal infections, appendicular infection, tuberculous infection and gonorrheal infections is discussed by W. Blair Bell, Liverpool, England. He explains how his methods are based on a conception of the pathologic actualities and possibilities, and on the importance of the conservation of function when this is practicable.—*(J. A. M. A.)*

THE CLINICAL DIAGNOSIS OF EARLY SYPHILIS.*

R. H. RULISON, M.D.,
New York.

Since the time of Fournier, who estimated that 13% to 16% of adults were syphilitic, and that 3% of men and 18% of women were ignorant of their disease, syphilographers have been trying to impress the profession with the commonness of this infection. Gougerot, in his 1918 book, says that one out of every six admissions to general hospitals is syphilitic, that the unbelievable is true in matters of syphilis and that one should look for the disease everywhere and always. Osler said "It is to be remembered that syphilis is common in the community and there are probably more families with a luetic than with a tuberculous taint." Godeau thinks that syphilis is the most common of all chronic diseases.

Hazen, in his 1919 book, remarks: "When it is remembered that the Wassermann reaction is frequently negative during the latent stages of syphilis it seems not improbable that 10% of the adult male population of the United States is definitely syphilitic." The chairman of the section of Dermatology and Syphilology of the American Medical Association in his address at the Boston meeting, in June, 1921, estimated the *active* syphilis in this country at between 2,000,000 and 3,000,000. This estimate is based on late official reports from all parts of the country and supports the generally accepted impression that syphilis has increased rapidly in America as a result of the shifting of population caused by the war.

If this disease is to be kept within bounds the general practitioner must apply these figures to his own practice and ask himself whether he is diagnosing his quota of cases and diagnosing them early. He must repeat to himself that 10% of his patients are luetic and that nearly one-third of this 10% are in the active stage. Until this view-point is generally adopted syphilis will continue to spread.

Six months ago a New York obstetrician received a tiny cut in the cuticle of his thumb from a manicure; it healed rapidly. Three weeks later he developed a sluggish paronychia; wet dressings proving a failure the lesion was incised and later the nail removed. The patient was advised to take a vacation and returned to the city after several weeks with a puzzling squamous eruption on the palms. After seeing several doctors the obstetrician finally found one who diagnosed syphilis. Although he remembered having had severe headaches and an angina while out of town he doubted the diagnosis until three laboratories had reported a four plus reaction. He is now under treatment and worrying about his wife and children.

An eighteen-year-old girl developed a pimple on her upper lip early in August. Her doctor, having failed to cure it with ointments, incised the lesion only to see it grow larger and suppurate. A consultation resulted in cultures being taken from the sore and an autogenous vaccine administered in scientifically graduated doses. She came to Bellevue hospital for diagnosis of an extensive papular syphiloderm during the last days of September, with her lip still twice its normal size and a sub-maxillary gland as large as a pigeon's egg.

Instances of this kind are so common that it is idle to dismiss them as people unfortunate in their choice of physicians. The men who mistreated these cases were above the average in professional ability and any criticism they merit should apply generally. If they had **thought** of syphilis the diagnosis would probably have been made early. The fault lies somewhere in our mental processes—in our failure to look for syphilis everywhere and always. We are proud of an occasional diagnosis instead of being dissatisfied that we do not suspect the disease in a larger percentage of our patients.

The family doctor works under the great disadvantage of knowing his patients too intimately. He has an affectionate interest in his families that makes him slow to suspect misconduct and he forgets the twenty per cent. of innocent infections; his instruction in syphilis as a student was probably sketchy, and he has been led to believe that in the dark-field examination for spirochetes and the Wassermann test he has laboratory aids that infallibly protect him from error. Even if this were true, it would still be necessary to *suspect* the presence of the disease or tests would not be made.

We are told that every genital sore and every suspicious extra-genital sore should be examined by the dark-field method. The implication is that every doctor should be equipped to make this examination. Before investing time and money in this equipment however, it may be well to ask how frequently it is likely to be used in general practice.

At the Bellevue Hospital clinic in syphilis we find that about one case out of every eight is primary syphilis. At other clinics where skin diseases and syphilis are treated in one department the proportion of primary syphilis seen is much less; probably one case in every twenty-five or thirty. It seems probable that in general practice the proportion of primary syphilis to later stages of the disease is not more than one to ten. On this basis if a doctor sees thirty cases of syphilis a year he may expect three of them to be primary. If he diagnosed all three cases by the dark-field method he would get a glimpse of the spirochete once every four months. And to recognize the treponema pallidum with certainty it is necessary to see it frequently, for there are benign organisms that closely resemble it.

We are told on good authority that spirochetes may be found in chancres, mucous patches, condylomata, in the secondary skin eruption and in material obtained by gland puncture. But lesions in the mouth and about the anus are almost sure to show benign organisms so closely resembling the pallida that a differential diagnosis is impossible. Our experience with gland puncture has not warranted enthusiasm so far and our positive dark-field findings in primary lesions, even after repeated examinations, are only about sixty-six and two-thirds per cent.

Spirochetes should be found in all chancres during the first ten days by the dark-field method, but at the Bellevue clinic the average duration of the sore at the time of admission is over twenty-four days, many patients have applied some antiseptic powder or dressing and often the lesion is a mixed infection. All of these factors make the finding of the organism more difficult.

The Wassermann test is negative during the early part of the infection; Hazen says that it may remain negative for four to twelve weeks after the appear-

*Read before the First District Branch Medical Society State of New York, Oct. 19, 1921.
**From the Department of Syphilology of Bellevue Hospital.

ance of the chancre. This corresponds with our experience at Bellevue where the Wassermann test was found positive in only 66% of cases of primary syphilis, even with repeated examinations. Craig reports on six hundred such cases in the army and gets reactions during the first week of the chancre in over 36% and his percentages increase until in the fifth week he has more than 80%. His figures should be remembered as showing the value of repeated Wassermann tests in early syphilis, but it should also be remembered that army conditions are different from those of civil life and that the reaction may be delayed for a long period.

In any case, if it is true that the prospects for a speedy cure are better when treatment is begun before the appearance of secondary symptoms, it is equally true that the most favorable time for commencing treatment is before the Wassermann test becomes positive.

It is apparent that in many cases of primary syphilis the dark-field either is not available or its findings are negative and that the Wassermann test may remain negative for many trying weeks. It is in such cases that careful and repeated physical examination is most valuable.

There is not space to say much about the chancre: the typical Hunterian chancre is well known and the atypical sores are so numerous and so varied that their description would be wearisome.

All chancres should be palpated as well as inspected and the presence of induration extending outside the limits of the sore is important; the presence of infiltration without acute inflammation in the sore, the efferent lymphatics and the regional glands will strengthen the probability of syphilis. Even more important to remember is the fact that fifty per cent. of soft chancres are really mixed chancres and even if the Ducrey bacillus is demonstrable the possibilty of a hard chancre, developing more slowly and masked by the chancroid, must be kept in mind.

A general examination of the body for evidence of possibly secondary lesions should be made in every case and it is about one phase of this general examination that I wish to speak. In searching for clinical signs it is well to keep in mind the pathology of the disease under consideration. One of the reasons why physicians are leaning so heavily on the laboratory in the diagnosis of early or asymptomatic syphilis is the failure of teachers and writers to emphasize the fact that this disease from its inception to its extinction is essentially an infection of the lymphoid structures. Brown and Pearce say, "The assumption seems warranted that while the spirochetes are widely distributed over the body during latent as well as active periods of infection, the distribution is not an indiscriminate one but that the chief reservoirs of infection are in the lymphoid structures of the body, whether massed, as in the case of the lymph nodes, or in the form of the simpler perivascular lymphatics. This points to the possibility of a wider application of our knowledge of lymphoid involvement in diagnostic and prognostic measures."

In looking up the literature one is struck by the wide variation of opinion as to the commonness and significance of enlargement of the superficial lymphatic glands in syphilis. Statements are found that this phenomenon is rare, that it is not found in either the early or late cases, that it has no diagnostic value. And, on the other hand, one finds equally weighty opinion that adenopathy of this or that group of glands is pathognomonic of syphilis. Very few of these authorities have been to the trouble of collecting statistics to support their statements and many of them seem to be expressing second-hand opinions.

Yet it is easy to account for the discrepancies; the general adenopathy of syphilis is moderate, painless and easily overlooked. The different groups of glands apparently react in different degrees and for different periods. There are several non-specific conditions that give a similar enlargement of the glands. Without sustained interest it is easy to see how one might utterly condemn or commend their examination for diagnostic purposes. Yet from a pathological standpoint their palpation is a logical procedure.

Eighty non-syphilitic cases and seventy cases of primary syphilis were examined at the Bellevue Hospital clinic in syphilis and their superficial gland findings analyzed. The non-specific cases gave no history of syphilis, showed no evidence of the disease and their Wassermann tests were repeatedly negative. Spinal puncture was not done in either the non-specific or the specific group. In the primary syphilitic group were included cases with initial lesions which had not as yet shown any other skin or mucous membrane lesions. The laboratory findings in these cases has already been indicated. Cases diagnosed without laboratory confirmation were considered typical. From both groups certain types were excluded, namely: obese individuals, those with chronic itchy dermatoses, those with an obvious tendency to lymphatism, cases of leucemia and women.

The percentage of palpable glands in the two groups is given in the following table:

Non-Syphilitics.		Primary Syphilitics.
100%	Inguinal	100 %
90%	Anterior Cervical	91.5%
32%	Sub-Mental	35 %
30%	Epitrochlear	72.5%
29%	Axillary	70 %
22%	Sub-Maxillary	37.5%
22%	Posterior Cervical	50 %
13%	Sub-Occipital	23.3%

The pre-auricular, the post-auricular, the supraclavicular and the pectoral glands are omitted from this table because they were found enlarged only in a very few cases.

Not enough cases are included in these tables to serve as final criteria of the occurrence of adenopathy in early syphilis and they are offered more in the nature of a preliminary report than as final observations. However, it is hoped that certain conclusions can be safely drawn at present.

For instance, an effort has been made to determine how early epitrochlear adenopathy might be expected. For this purpose the cases were divided into groups according to the duration of the chancre at the time of examination. The results follow:

DURATION OF CHANCRE AT TIME OF EXAMINATION.

One week or less	64.28%	palpable.
Seven to fourteen days	66.66%	"
Fourteen to twenty-one days	72.72%	"
Over twenty-one days	76.19%	"

The table is of interest as showing that adenopathy of this gland occurs early and its frequency increases with the duration of the infection.

To sum up, it seems allowable to conclude,

(1) That an examination of all the superficial glands with a record of their palpability, repeated at frequent intervals during the early stage of syphilis may give evidence of the presence of a generalized infection at a time when neither the dark-field examination nor the Wassermann test are likely to be of assistance.

(2) That palpable inguinal and anterior cervical glands have no diagnostic significance, since they are commonly enlarged in non-specific individuals. (It is of course understood that the important regional adenopathy accompanying the primary sore is not under consideration.)

(3) That enlargement of the epithrochlear gland and probably of other superficial glands occurs very early in the couse of the disease.

Like all clinical signs, this one has its limitations; it will not be of service in every case and at times the findings may be puzzling; nevertheless, the importance of an early diagnosis of syphilis to the individual and to society is so great that no means of arriving at it should be neglected, and in the presence of a history of exposure showing a reasonable incubation period, followed by a suspicious sore, regional adenopathy and some evidence of generalized infection, such as the adenopathy described above, one is warranted in making a diagnosis of syphilis and beginning treatment even without the aid of a confirmatory laboratory report.

I wish to express my thanks to Dr. M. B. Parownagian, director of the Department of Syphilis at Bellevue Hospital, for permission to use the material on which this study is based.

780 Madison Ave.

THE RESOURCES OF "SYSTEMATIZED REST, ISOLATION AND FORCED FEEDING." II

Including Retraining and Functionation, of Personality, of Energy Reserves and, in Particular of Volition Through Control of the Neuro-Muscular Mechanisms.

J. MADISON TAYLOR, A.B., M.D.,
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Philadelphia.

(Concluded from page 306)

VI.—Resume of Proceedings:

The best results in rest treatment are had from modelling the day much after that of an ordinary working person. Measures should begin early in the morning. The patient usually needs to be aroused at about seven o'clock, or even earlier in summer weather. With the first peep of dawn if the patient be awake, or by seven o'clock at the latest, when if asleep the patient should be awakened, the nurse should bring some hot drink to the bedside. A small cup of cocoa is in some respects the best, or it may be hot milk or weak coffee or tea. Cocoa is useful for those who need to be fattened; tea perhaps better for those who are already burdened with soft flesh. The hot drink acts both as a food and to divert the acid fatigue products in the blood to the stomach, thus enablinig the patient to bear the fatigues of the subsequent bathing and partial dressing, and also, on account of the heat, as an admirable heart stimulant. Indeed, a cup of hot water in the morning is a far more competent eye-opener than any combination of alcohol. This can be proven in the case of men accustomed to take much tipple who often become more enamoured of a cup of hot water, with possibly a slice of lemon in it, than of any concoction emanatinig from a bar.

After the cup of hot fluid, the nurse administers a brisk dry rub or a bath. For delicate skins a contrast bath is best, alternate warm and cool. The sponge bath is best as cool as possible; to those who can endure it, it should be cold. It also is the better for containing some stimulating property, as salt —a tablespoonful of salt in a basinful of water. The patient lying between blankets to prevent all chill, the nurse takes one limb at a time, bathes it gently, and afterward rubs the skin to a good pink glow. As each part is disposed of it is carefully protected by a blanket and the next part approached. This occupies probably half an hour; then comes a little rearrangement of the clothing and the subject is made comfortable for the day.

About eight o'clock an ample breakfast is offered, which will be found in no way interfered with by the small cup of drink earlier. After breakfast an hour's rest follows, while the nurse attends to duties elsewhere, and the patient is not allowed to be disturbed in any way. The second meal is given a little after mid-day, about one o'clock, and takes the form of a liberal dinner. At six o'clock comes the last meal, a fairly substantial supper. After each meal a period of an hour should elapse in which the patient is to be kept entirely quiet. Between breakfast and dinner, about half past ten, fluid food is given—milk, broth or soup. In some cases this fluid repeated between dinner and supper; and at nine o'clock, or before the final tucking in for the night, it is customary to give again a glass of milk, preferably warmed.

The massage should come either in the forenoon, just before the milk, or in the afternoon, midway between the meals; the electricity in the other half of the day.

During the progress of routine massage certain precautions must be maintained. The tissues must become thoroughly relaxed while passive movements are being employed. These are followed by active movements. The fullest accuracy and increasing force must be elicited in not only the posturing movements, but especially when resistance is made. The resistance movements should be deliberate but of increasing force to a point of completion, and thence the limb held in the utmost tension of which the individual is capable for a second or two. Extensor movements in the arms are more important than flexor, because most common daily acts are flexor movements, and we need to use an excess of extensor movements to acquire muscular balance. It is only through nutritive and oxidative interchanges that exhausted nerve centers and muscle cells can regain their tone, functional poise of both the body and the mind.

During massage there is relaxation of superficial capillaries and opening of sweat glands. This relaxation is followed by surface moisture which by its evaporation induces latent heat, the escape of which produces surface chill and ill effects may follow. This must be guarded against by a careful protection of the part. A warm blanket should be used, each part being wrapped up after it has been treated, or woolen stockings for legs and the same for arms. When the procedures are completed foot covers may be removed, and the patient tucked carefully in bed and directed to lie still and rest for a full hour.

It is an axiom in remedial exercises for those not fully strong, that a period of rest should supplement that of activity and for at least the same length of time. To sum up: the procedures of massage, passive exercises, resistance movements and active movements should be systematically increased in proportion to the strength of the individual. It will then be found that surprising results follow until it is often quite possible in from two to four months to rehabilitate neurasthenic persons and return them to society not only recovered, but strong and more enduring than they ever were before.

The getting on foot and about again after protracted lying in bed is more of a job than it might seem. While those put at absolute rest usually rebel at first and only become reconciled after ten or twenty days, they grow so contented at last as to equally rebel at getting up again. This state of kenetic apathy is due partly to physical inertness—first what is desired—and fear reactions, a sense of at first desired—fear reactions go and a sense of bed ridden "nervous invaladim" often develops. Moreover, when the erect posture is too suddenly resumed by one long prone, distressing, even alarming symptoms do follow, e. g. vertego, ringing in the ears, goneness in stomach, in knees, heart flutterings and others after causing delayed convalescense or worse.

The self-adjusting blood pressure mechanisms are out of gear and balance, the hydrostatic automatomatisms have depreciated and are in grave need of graduated efforts at resuming control. However, the "first day up" a chair is put by the bed and occupied for ten minutes twice daily. This is increased by five or ten minutes each day for a week; then the chair is set farther away and the patient walks to and fro, supported by the nurse. Outings are repeated with equal system. Thus a source of confidence is bred, also the habit of couscious kinetic gradations is formed.

Diet.

So well is the subject of dietetics understood at present it is only necessary here to remark that while particularized dietetics is a most important factor in the treatment of exhaustion states, it is not so paramount as some have claimed. How one eats is often of greater significance than what. Mastication is of first importance; omitting to sip fluids is another. All fluids should be taken while the mouth is empty of partly masticated food. Motor power of the stomach is above bio-chemical regulation. Where the patient is under-nourished, full feeding even forced feeding, is indicated. Milk and eggs, especially the raw yolks of eggs, should be administered between meals. Where there is obstinate dyspepsia, or, as occasionally happens, over-weight, or hyper-nutrition, a course of fasting should precede for about three or four days, with much water drinking and enamas; then skim milk in lessening amounts after the method of Karrell, will prove of advantage to reduce flesh, relieve vascular tension, and cure many functional derangements. This consists of eight ounces of skim milk, sipped with a spoon, every three hours, each day lessening by one ounce, until only two are given, then increasing to the first amount and gradually adding some stewed fruit and bread, and in about three or four weeks getting back through a simplified, to a more complex, and finally to a normal dietary. A period of complete starvation at any time for a day or many days, is an excellent device to correct vitiated digestive states, gouty phenomena, hypochondriasis, whimsical tastes, or to restore lost appetites. While a person is at absolute rest many such radical measures can be employed more safely and successfully than for one who is up and about. Moreover, hyper-alimentation can then be pushed to an extraordinary degree.

An old nurse's aphorism is that "cod oil flesh is fleeting". Hastily accumulated fat is readily lost when activities are resumed. Hence the necessity of those rational reconstructive measures, massage and graduated forms of motor education not only to hold what is gained, but to render it available, useful, kinetic. Nutritional errors encountered are due largely to impairment of nerve nutrition; hence the need of rest which is usually adequate to restore digestive tone.

Electricity.

The routine use of faradism is of large utility, especially for those whose muscles are defective in power or control from weakness or long disuse. In hysterical paralysis or incapacity it is essential. If no such depreciation is present it may still prove of large utility through its sensory stimulation, as well as for its motor encouragement and compulsion. Electricity is the one measure in the group which may, however, often be safely omitted. No electrical device is to be compared to intelligent muscle training—kinesitherapy—done by a master.

The Nurse.

The most important factor, next to the wisdom and tact of the physician, is a suitable nurse. Not only must she qualify technically, sympathetically but intellectually, and in that far higher sphere which is inexactly described as the realm of common sense, since it is one of the rarest of gifts. Her business is to maintain a symmetrical, consistent, daily routine, and keep the patient all the time busy "guessing," supplying just enough conversation, but not too much information or explanation. Narrow minded, ignorant chatter is often intolerable and exhausting to the patient. A nurse who is too sympathetic, who coddles or encourages the patient to dwell upon her miseries should be dismissed.

Patients often remark that the rest treatment was among the busiest periods of their lives. All this keeping busy is, however, desirable for distraction, substitution of impressions. The patient is, or should be, passive; in extreme cases absolutely so, all "doings" being performed by others. At first the nurse may actually place food in the recipient's mouth. Conversation had best be of the simplest. Part, and not the least part, of the rest cure is a selection of suitable topics; the character of their presentation is the duty of the nurse upon hints supplied by the physician. I rember Dr. Mitchell once demonstrating by a most significant incident. The patient was the daughter of a Catholic physician, who stipulated that the nurse should be a devout Romanist. Whereupon I was directed to install a pink-cheeked Presbyterian. Old lines of thought need to be firmly set aside and new points of view presented. Suggestive education is paramount. In this the nurse is the constant, if not the chief, agent.

Medicines.

A good clinician can be safely entrusted with the administration of needful drugs; few are needed. He

is the more successful when working with such tools as he is familiar. This series of rest procedures renders them relatively unnecessary.

It may be well to refer to the suggestive summarization of the pathology of true neurasthenia (and exhaustion states generally) as presented by Sajous. Neurasthenia is recognized to be a vaso-motor neurosis, the prominent feature of which is relaxation of all arteries. This he explains as due mainly to exhaustion of the sympathetic center and the resulting relaxation and loss of propulsive power of the arterioles. The tissues thus become imperfectly oxygenized and nourished, hence follows the mental torpor, habitual fatigue, adynamia, gastro-intestinal atony. Various clinical classifications of asthenia are suggested, describing varieties of functional disturbance; but whatever be the multitudinous symptoms, certain features are common to all which depend on varying degrees of hypothyroidism. Hence he recommends small doses of desicated thyroid (not more than ¼ or ½ grain three times daily), amounts of an assimilable form of iron, calcium or other "roborants." Hence follows improved tone in, and nutritional power of the blood. The thyroid preparation is assisted by strychnia, which, by exciting the adrenal and vaso-motor centers, enhances general oxygenation and the vascular tone. The sympathetic center and muscular layers of the asterioles are also better nourished, hence they recover tone from another direction, a most important factor in systemic repair.

The rest treatment is capable of diverse useful forms of modification. Among these is "partial rest," consisting of such liberalizings as may be permissible. Always it is a process of re-education of primitive impulses whereby their normality shall be re-established.

Massage, Passive and Active; Educational Movements, Orthokinetics.

The efficacy of massage is so great that it surprises me to hear the measure sometimes belittled. The reason, as I have often pointed out, is that few clinicians take the trouble to study the measure from its physiologic foundations or practicality, and hence are victimized by inferior operators who, failing to get adequate guidance and direction, produce valueless or even hurtful effects. Suffice it to say that while aiming to improve both psychopathic and somatopathic conditions we have a powerful ally in judicious scientific methods of awakening the dormant kinesthetic centers by motor, vaso-motor and sensory stimulation. It is most necessary in treating the victims of disuse or misuse of bodily and mental functions, to restore normality in the realm of both correct sensation and motion. Receptive centers in asthenics have become dormant, vitiated, or exhausted; the cortical sensory and motor centers need to be brought into normal relation with the rest of the controlling centers; hence of the whole field of consciousness.

The sensations and ideas of motion are functions of the convolutions back of the rolandic fissue. In normal volition these convolutions are first excited (by association impulses from other centers), and then directly or indirectly by association impulses which they arouse in corresponding motor centers in the precentral convolutions. Dr. Mitchell was the first to demonstrate—so far as I can learn—the vast importance of giving and compelling volitional co-operation in after effects of apoplexy.

Furthermore, above and beyond effects to be achieved by general massage and regulated (passive or received and active) moments, there is a vast field of potentiality in judicious nerve pressures, direct, distributed and alternated, whereby extraordinary effects can be wrought in regulating vaso-motor and spinal reflexes, hence on blood and lymph distribution. This choice of method is rightly the province of the skilled physician and should be demonstrated by him, or at least, performed under his direct supervision.

VII.

Finally, how long does it take to restore exhaustion states? It is a working axiom that the effects of well marked exhaustion require at least half or a third as much time to recover as to develop. Protracted or chronic exhaustion is a very different condition from the debility of acute infections. Any country bred man will know that a horse worn out by months or years of overwork, bad treatment and careless feeding, requires much longer to get into "condition" than a vigorous horse who has had an attack of "lung fever". Not only must a sound but exhausted horse have rest, but also careful tending, gentle treatment, encouragement and skilled attention directed to all organic derangements which may have developed during strains, neglect, hurts, and the like, but before he can regain his old-time speed and action, he must also be well groomed, "carefully handled", "worked", to enable him to regain elasticity, balance, action and full usefulness. It is a long, tedious job, but it is well worth the trouble and time.

A man thus deteriorated needs all this, and more. His mind has suffered protracted and exhausting perturbations, confusions, misjudgments. His central nervous system is not only depleted but the dominant mechanisms, the adrenal system has been subjected to protracted over-stimulation and consequent excessive reactions. Hence he not only must devote abundant time, employ or have employed every means of cellular and humoral restitution, but also the channels of guiding force demand skillful re-education and rehabilitation. Hence it is plain that where there has been serious vitiation of not only physical but psychic habitudes, not only must the subject be compelled to undergo repairs for the body, but likewise and even more so for mental readjustments, extending over not only months, but two or three years.

Visceroptosis is among the most prevalent causes of physical backgrounds of asthenias and constitutional inadequacies. To be sure, the evidence is clear that by no means all those in whom the viscera are displaced suffer any notable or recognizable symptoms. It is more than probable, however, that these alterations of normal interrelationships are the common causes of functional disturbances leading often to asthenias of one form or another, when the individual is in lowered tone. It is borne in upon my consciousness that many of the remarkable betterments which followed rest and fattening and blood improving which Weir Mitchell describes in his little crochure "Fat and Blood, and How to Make Them", can be credited to replacement of abdominal organs.

In my earlier experiences with him recognition of this condition was not so current. I do not recall

his even mentioning it. In a somewhat extensive revision of the now voluminous literature of visceroptosis and visceral statis, emphasis is laid upon the importance of rest and fattening. When it is recalled that the measures we then employed included these and a most careful and systematic series of suitable physical exercises, passive and active, it will be seen that such radical rejuvenation must have included that 80 per cent. or so in whom visceroptosis or stasis or both would have been exhibited, had we enjoyed the advantage of roentgenographic explanations.

That the conformation of the majority of the patients so treated, I do recall clearly, were of the grammiverous or race horse type, with a minimum of the stocky built carniverous or percheron make-up. My later clinical experiences include many astheniacs in whom the symptoms exhibited conform closely to those of ptosis or visceral stasis.

For such conditions a period of systematized rest measures is the best known means of initiating improvements, and especially for training in particularized exercises so essential for the recovery of lost tissue tone and vigor. It may be of interest to briefly allude to the nature and character of the exercises which most promptly and radically correct visceral displacements and the depreciating effects upon the blood and structures.

VIII

During the weeks of absolute rest it is not only desirable but essential that a certain amount and particular kind of muscle re-education be insisted upon, and porformed lying down. The value of these movements practiced in the prone attitude may be ascribed to the absence of hydrostatic stress (blood ptosis) put upon the weakened heart and blood vessels. Doubtless this was half the reason; the other half was (and is) the desirability of supplying full mobilizings, stretchings, rotations, as well as tensions, to stagnated structures without disturbing the adjustments of the viscera which, in the prone position, gradually come to equilibrium. In the more enfeebled persons it was our custom to use half the time devoted to massage to corrective movements, most of which were designed to modify or reduce the "waist line". We emphasized as the chief objective of this in women to "conduce to the beauty of the figure". Hence those who otherwise might have been indifferent covertly welcomed so worthy an enterprise and co-operated faithfully in re-establishing vigor in the splanchnic structures.

Briefly the outstanding dissiderata in replacing and fixing misplaced viscera are these:

The essential principles of remedial movements for the majority of visceroptotic conditions are the same with only such differences as local or personal disorders may make desirable. They include achieving accurate conscious control of all the voluntary chest and trunk mechanisms, the larger the variety the more surely and completely will good results follow. In all except the most senile and timid I urge large and varied floor exercises, stretchings, as described in a former paper; the resumption of childhood twistings, and turnings, exploits which readily shock, sometimes terrify, but never harm, but always benefit.

Let me cite as a perfect, entirely normal and instinctive procedure the delightful and salutory reachings, yawnings, slow deliberate tension or flexion movements made on waking after a sound and refreshing sleep. This instinctive stretching is the conservative impulse to bring our motor mechanism into line with functional readjustments after long rest in bed. I would cordially commend for every one the formation of the habit of not only indulging in this pre-eminently natural yawning and stretching, but in prolonging it and consciously noting the instinctive movements made and to inteiligently increase their variety, direction and force.

To do so lie on top of the bed covers and amplify each and every impulse to stretch and tense the muscles. They should include deliberate out-reachings in every direction, chiefly in extensions, less in flexions; full torsions, rotations, in bending the head literally to the limit, forward, and particularly backward until the body rests on the back of the head and the heels; in thrusting the arms first to the right, then to the left, then vertically, together and alternately, in flexing the legs upon the abdomen, and then while the back is bowed forward to thrust the legs as nearly as possible up to and beyond the head, together and alternately; then lower the legs slowly and repeat, describing the arc of a half circle. Then turning on the abdomen reverse the motions, flexing the back, thrusting the head as far back toward the buttocks as possible, then kicking the buttocks with the heels alternately, etc.

All these motions, let it be emphasized, should be made with deliberation and with amplification, i. e., a steadily increasing force and completeness of ambit So much for the simple straight-out acts. Then there are the even more important movements of rotating the whole shoulder mass, in a sort of circular motion, first forward, round and round, then the reverse motion, round and round. The same of the hips, each in turn, then of the neck and head, then of the legs and arms, rotating first one way then another. So also of the waist line (the transversales as well as the recti) to which particular attention should be paid.

Of course you may say this is very elaborate and complicated. Not at all; each and every motion is simplicity and primitiveness itself. Should one's memory become confused a teacher is desirable, but any one with motor intelligence (only too rare) can work these out from the recollections of motions made in childhood, with some effort to elaborate the instinctive motions mentioned at the beginning, i. e., those made in the morning yawnings.

Many of the forms of symbolic or pantomimic or emblematic dancing or posturings now in vogue are peculiarly adapted as elaborations of the yawning exercises.

NOTE:—See article by the author: "Chest and Trunk, Reciprocal Action of Muscles and Functions of Contained Organs."

PROHIBITION AND THE DOCTOR.

P. CHARLES GREEN, M.D.,
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Old Noah, he had an ostrich farm, and fowls on the greatest scale;
He ate his egg with a ladle in an egg-cup big as a pail,
And the soup he took was Elephant Soup and the fish he took was Whale;
But they all were small to the cellar he took when he set out to sail;
And Noah, he ofen said to his wife when he sat down to dine,
"I don't care where the water goes if it doesn't get into the wine."
But Noah he sinned, and we have sinned; on tipsy feet we trod,
Till a great big black teetotaller was sent to us for a rod,

And you can't get wine at a P. S. A. or chapel or Eisteddfod;
For the Curse of Water has come again because of the wrath of God,
And water is on the Bishop's board and the Higher Thinker's shrine,
But I don't care where the water goes if it doesn't get into the wine.

From "The Flying Inn."—G. K. CHESTERTON.

"G. K." in his lecture tour of the United States devoted one talk to lampooning the medical profession. While it is rather hard to take him seriously, yet we in the profession have an effective come-back in our knowledge that he learned his art of satire and ridicule at the feet of one of our number, Dr. Francois Rabelais. There is something radically wrong with an individual or a group that cannot stand criticism. Even such a lurid document as "The Memoirs of a Physician," by Vikenty Veressayev, has its value. In one thing regarding the profession Chesterton is right—"the water has got into our wine." That is to be taken both literally and actually, concrete and abstract, fore and aft—any old way you like.

The criticism of the profession is that we "laid down" and played dead dog while our most elemental rights were being legislated away from us. It does not make a particle of difference whether a physician believes that alcoholic remedies have any medicinal value or not, for the same can be said of any remedy in the Pharmacopeia, but the legislatures of twenty-four States has said to its physicians, "You cannot prescribe alcohol in the form of whisky, brandy, gin or beer, and only in such form as we will permit you." The Congress of the United States has said to all of us, "You can only prescribe a pint in ten days to any one patient, and if the pint gives out before ten days (which it is sure to do if given in ordinary doses) you must either break the law or practice medicine according to the Constitution of the United States and not the constitution of the patient."

Under the so-called Anti-beer Bill, now before the Senate (September 30, 1921) this amount is further restricted to one-half pint in ten days. In other words, the doctors of the country are accused of flooding the United States with rum when in twenty-four States they cannot even prescribe it, and in the other twenty-four States not over one-third the profession have even taken out the permit to prescribe.

All the while, the bootleggers chortle with glee, and the bogus permits flutter around like a stage snow storm.

In the Senate discussion of this Anti-beer Bill it is surely a relief to find that we are not without our defenders. Senator Stanley said that the assumption that physicians would violate the law in the prescription of medicinal beer "is an insult to the medical profession of this country."

"Illegitimate traffic in alcoholic liquor never has and never will look to the doctors of the United States," he declared, adding that "the distillers know that one crooked enforcement officers with permits in his pockets can turn loose more liquor in a day than the doctors can prescribe in a month."

He called attention to the Harrison Act, which regulates the use of habit-forming drugs, saying: "Any doctor in this country can secure an unclean increment to his income by pandering to the tastes of the drug addict; but the doctors have not done it, and there is no reason to assume that they would abuse an authority to prescribe brewed alcoholic liquors any more than they would abuse the authority to prescribe spiritous liquors. To assume that the doctors of this country would flood the land with beer is ridiculous and an absurdity on its face."

The first point at issue, then—Has a physician an inherent and inalienable right to select his drugs, his dosage, his method of prescribing, after he has been duly qualified, examined, and certified as an intelligent and graduate member of his profession?

In this respect there was one big and straightforward protest made by Dr. Charles A. Dana, Dr. Samuel A. Brown, Dr. Samuel W. Lambert, and six other highly reputable physicians in a communication published in the Journal of the American Medical Association, June 14, 1921, wherein it was stated:

"The point at issue is the right of the physician to select his remedies and to decide the doses of these remedies each patient requires."

Individual physicians of the highest standing, character and repute have added their protest against the absurdities contained in the Volstead Act and more particularly in the interpretations that flow out of the permissive division.

Dr. Hobart A. Hare, professor of Therapeutics and Materia Medica, Jefferson Medical College, in an address before the Kiwanis Club at Atlantic City, September 28, said:—

"Alcohol in this country, before the Volstead Act, seemed like a gift of God to drive 'rotters' and all worthless human beings to an early grave through excessive drinking." Further, he declared, that alcohol is produced in the human and absorbed by the intestines every day, despite Mr. Volstead and the host of prohibition enforcement agents. Its habitual use for centuries by billions of human beings means, like every other human habit, that it is some benefit to life.

Prohibition, he said, has hindered the medical profession in alleviating suffering and prolonging life of the sick, and foolish regulations have driven the prescribing physician to drug store whiskey, "which is the worst whiskey in existence."

Emphasizing that he was not advocating a return of conditions where excessive drinking would be encouraged, Professor Hare referred to alcohol as a foodstuff as well as a drug, and paid high tribute to its value as an energy-giver, an aid to digestion, a repair kit for shattered nerves when used in moderation, and a factor in reducing suffering and perhaps prolong life in diabetes and other cases.

He stigmatized the "one-half of one per cent." rule as absurd as a maximum before intoxication, and cited a test he had made by having a man drink a dozen bottles of 2,75 beer. A blood test afterwards showed no quantity of alcohol sufficient for intoxication.

One of the fool rulings relates to wine. In the public prints it was stated that a physician could prescribe as much as three gallons of wine to any patient. On inquiry, this was found to be absolutely untrue, and the only ruling we could secure officially limited any one prescription to a pint in ten days. In a case of persistent vomiting, for example, a pint of champagne would last the patient, even when served through a tap, just a few hours, and then what? I was told by our local office that another pint could not be prescribed for the same patient in ten days. Could anything be more absurdly ridiculous? When you think of the medical education of the "doctors" who framed the Eigh-

teenth Amendment and of the "dry" nurses who are carrying out their orders, you immediately know one of the ailments of the country and why it is going to be so hard to cure.

All of which may seem a bit drastic in the face of the fact that no physician has the right to attempt to speak for the entire profession and, further, you will find within the profession just as wide a diversity of Prohibition views as you will find outside; but let it be said to the honor of the profession that any reputable physician has the right to express his opinion in the broad light of publicity, and state his case. I know of no section of journalism as free from the blue pencil of the editor and the blot of the censor as the medical journals of America. It is true that they are not all liberal or broad or tolerant and some of them are as "dry" as dust, but they are all honest and if we physicians have not expressed ourselves it is our own fault.

The Etiology of Prohibition.

Having outlined our premises in a general fashion, we will particularize with the "etiology" of Prohibition.

First—Commercial.

"Do you think the poker room
Of Johnnie Taylor, and Burchard's bar
Had been closed up if the money lost
And spent for beer had not been turned,
By closing them, to Thomas Rhodes
For larger sales of shoes and blankets,
And children's cloaks and gold-oak cradles?
Why, a moral truth is a hollow tooth
Which must be propped with gold."
—Sersmith the Dentist in "Spoon River Anthology."

In a commercial sense, the beneficiaries of Prohibition stretch from the smallest merchants in the smallest towns to the silent, shrouded money giants who not only control the goods the small merchants sell but become their competitors through the chain stores. It is the money giants that play "the ends against the middle" with such consummate skill and dexterity of movement that the middle (always the public) never even suspects that it is being "worked" to a state of financial dryness.

A close study of the trend of modern capital, both for investment and exploitation, will give you an insight into why the individual consumer has become of such paramount financial importance. This consumer is now buying prodigious quantities of automobiles, musical instruments, tobacco, candy, soft drinks, jewelry, perfumes, and "everything"; he and she are going to the moving pictures, theatres, dance halls, and "everywhere." They would buy alcoholic beverages, too, but it was early discovered in the "dry" States that if the public could be kept away from the saloons and cafes the money was sure to be spent elsewhere. When this fact became quite clear, Prohibition became a matter of deepest concern to the most important commercial and financial interests. These interests know how to get what they want. They wanted Prohibition. Lo and behold, they "rubbed" the Alladin's lamp of propaganda and politics and now we have—Prohibition.

Second—Industrial.

Again we have a real authority—"New Ideals in Business," by Ida M. Tarbell, Chapter V, "Sober First."—

"Find a way" is becoming in scores of the greatest and richest manufacturing concerns in the country the rule in regard to drink as it is in regard to safety. I doubt indeed if there is any agency today making anything like as persistent, spirited, ingenious attack on the use of liquor as that of our modern industrial management. The attack is only just begun. It is bound to go on as is that on long hours, unfair distribution of profits, inefficiency, autocracy of management, blind alleys—every evil that hampers the full development of industrial life. Progress will be the more rapid because it is becoming clear to so many that here as at other points that which was looked upon as a purely moral question is also an economic question. It is another one of accumulating proofs that only good morals are good business. This realization brings a professional and scientific spirit to the handling of the liquor problem which it has almost always lacked. It takes it out of the amateur class.

"Takes it out of the amateur class." I grant you that and I grant you more; that the "amateur class" is used to the limit of its availability.

Capital is now dealing with the worker, with labor. This aspect of Prohibition is so vast that all one can do is to call attention to one fundamental fact—you cannot standardize human nature, nor can you restrict and confine the current of labor's actions to a cold and formal process of work and supervised social activities. You may seem to do it for a while, but sooner or later capital is going to pay a price that will jar it out of its present complacency.

If that price is to be a loss of faith in our democracy, that a law has been put over by legislative trickery and shrewdness that does not represent the will of a majority of our people or tramples on the rights of a very large minority, then the resultant loss of faith in all laws will bring about a degeneration of our morale that bodes ill for our future peace and happiness as a nation.

One will readily see that Prohibition has come to us from "economic" and not "moral" causes. I dare say that the people who have really put Prohibition over on the United States could be counted on the fingers of one hand—certainly the "interests" they represent could be so counted. One is lost in wonder at the sublety, capacity, finesse, skill, legal knowledge, and real psychologic elements displayed. The so-called commercial "wet" interests are as infants compared to them.

The biggest cards have always been the abuse of alcoholic beverages by some consumers and the failure of the makers and retailers to attempt to control the all too evident evils in their business, evils which we physicians are coming into the closest contact with every day. A drunken man is like the renowned gladiator who went out to conquer the "Dragon of Valencia," and hit on the idea of having an armor constructed entirely of mirrors, so that when the dragon came forth from his lair and saw the gladiator scintillating thousands of flashes of light and saw thousands of dragons in front of himself, he promptly collapsed and, collapsing, was as promptly dispatched. The demon rum, through the "drunk," is reflected in the eyes of every beholder, but as a matter of scientific knowledge, the inebriates in the United States are less than one per cent. of the total population. To keep liquor from this small percentage through the attempt of absolute prohibition is like a surgeon amputating a leg to cure a corn.

Personally, in all my twenty-seven years' practice, I have never known a beer "inebriate." I have treated gasoline, ether, and turpentine intoxication and know that since Prohibition our police courts have been filled with the unlawful acts of countless numbers of different kinds of "drunks." "White mule," "jump steady," "block and fall," in the vernacular of the sodden fraternity, describes not only the drink but the effect of the same.

The physicians are interested in this development through the reactions and physical conditions

brought about in patients through drinking the many forms of "hootch" now in use. Many of these, sad to relate, are made in the home and made with varying degrees of ignorance and cupidity.

Now it is idle to argue that people should not drink the horrible concoctions offered. They do—and then come to the physician with symptoms that are widely different from the effects of the old alcoholic beverages. These effects vary from the death and destruction of "wood alcohol" to the nausea and vomiting of "home brew." They engender various forms of toxemias, neurasthenia, and psychoses. The physical danger, as I have pointed out, to the average drinker is not so much in alcohol as it is in the kind and quantity and frequency of consumption.

Alcohol from a Scientific Standpoint.

In my student days, Dr. Robert Bartholow was wont to tell us that he knew of five hundred kinds of wine and every kind good for some particular ailment. We have reversed the process these days and now have five hundred ailments and only one kind of wine, i. e., alcohol.

Any physician, by referring to the text books, can secure the views of almost any authority desired. I believe it would be better, for once, to go outside the profession and secure a viewpoint from that most interesting of allied studies—psychology.

Dr. John B. Watson in his book "Psychology: From the Standpoint of a Behaviorist," in the chapter "The Organism at Work." writes * * *

Alcohol.—On account of various partisans for and against the use of alcohol, it is difficult to obtain unequivocal data upon this subject. The following summary presents the unpartisan view of most scientific men who have taken up the study of alcohol from a psychological and physiological standpoint.

"1. There is a wide range of individual variation in the ability of different people to consume alcohol without showing its effect upon their curve of work. The amount may vary from 20 c.c. to 40 c.c. of absolute alcohol (a very much heavier dose than is usually taken for purely social purposes).

"2. The effect of alcohol upon all reflexes when any is noted is depressing. This has been confirmed by many investigators working upon the patellar reflex, reflex eye movements and others.

"3. The effect of alcohol when taken in large quantities on the amount and quality of muscular work which can be done is deleterious, according to most observers. Some hold that the bad effect upon muscular work can be observed for many hours after the alcohol has been consumed. On the effect of small doses of alcohol Rivers has the following to say:

" 'I may now sum up the general results which have so far been reached. In the case of muscular work, we have seen that there is definite evidence that small doses, varying from 5 to 20 c.c. of absolute alcohol, have no effect on the amount or nature of the work performed with the ergograph, either immediately or within several hours of their administration, the results previously obtained by other workers being almost certainly due to defects of experimental method. With a larger dose of 40 c.c., there was evidence—in one case, at least—of an increase in the amount of work under the influence of the substance, but the increase was uncertain and inconstant, and the possibility cannot be excluded that it was due to distributing factors. With larger doses than 40 c.c., we have the work of Hellsten, showing a decided falling off in the amount of work with a dose of 80 grammes.'

"4. On the biological side the results are not very clear. Psychopathology shows that many feebleminded and psychopathic children are born of alcoholic parents. The question here, though, is whether the parents were not psychopathic before becoming alcoholic. Alcoholism may be merely one form in which the neurotic tendencies show themselves. It is questionable whether a sturdy individual free from hereditary stigmata could ever become alcoholic. So many normal interests would come in conflict with the excessive use of alcohol that it is almost unthinkable that a healthy man could sink his cares and worries in that form of ablivion. Experiments upon animals are again not wholly conclusive. Stockard's work on the guinea-pig represents one side, Pearl's experiments on the domestic fowl represent the other. The former found that if guinea pigs were forced to breathe alcohol fumes for long periods of time the progeny of such individuals was born with a large number of abnormalities, and the tenure of life was shortened. Furthermore, the f2 generation still showed the evil effects. Pearl, on the other hand, found almost the opposite effect upon domestic fowl. The egg-laying capacity was possibly increased and the fertility of the eggs was in no way decreased, nor were any evil effects noticed upon the young.

"Certainly no experimental work, either upon humans or animals, has shown that the consumption of alcohol in small amounts when taken after the working period of the day is over produces any evil effects upon the individual or upon his progeny. Certain statistics have been advanced by life insurance companies which would seem to controvert this statement.

"These mortality tables seem to show that even the occasional drinker has a shorter span of life than the total abstainer. These statements have been called into serious question by statisticians of the highest character who are interested only in the mathematical side of the problem and not in the good or bad effects of alcohol.

"In the opinion of a great many people, the following statements seem to be reasonable: (1) That the only sane thing to do is to keep alcohol from children during the growing and adolescent periods, not because experiment has shown that small amounts will injure them, but because there may be a risk and the risk is not worth while, since the child is in no need of relaxation from work. (2) That the distribution of alcohol is not (or rather was not) very wisely handled. The saloon is generally recognized as an unwholesome institution because it provides a loafing place for individuals out of work, keeps the working man from his home, encourages drink during the working hours of the day and because of the fact that undesirable characters very often frequent it. The more reasonable members of the community feel that if the saloon could be eradicated and the sale of high-proof liquors stopped, then the lighter wines and beer could be consumed in small amounts in the evening after the working period is done with no detriment to the race as a whole. The advantage they urge from such a handling of the alcoholic situation is the relaxation which a small amount of alcohol brings. The concept of relaxation is a growing one and peo-

(Continued on page 304)

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Speculations on Cancer.

Cancerous growths sometimes behave very oddly. For example, Senger and Mohr have reported cases in which incomplete removal of carcinoma has been followed by cure. Simple gastroenterostomy has cured gastric cancer (Linduer, Hahn, Kroenlein, Alsberg, Baer and Steudel). Retrogression and even disappearance of mammary cancer have followed upon oöphorectomy.

Such phenomena seem to sustain that hypothesis regarding cancer which has been stated as follows: At that degenerative and disintegrative period of life which is so closely related to the occurrence of cancer, when cessation of the sexual functions and atrophy of the sexual organs supervene, may there not be a quota of that dynamic element known loosely as physiological energy which finds itself at a loss, as it were, for lawful occupation in the economy? What more "natural" than that, being at liberty, so to speak, it should expend its force in ways biological but mischievous. As nature abhors a vacuum, so she abhors unused energies. If we may conceive of the carcinomatous process as a manifestation of perverted growth, in other words, of perverted physiological energy (cancerous tissue being not in itself histologically foreign to the organism), then may we not, without concerning ourselves too intimately with the rationale of such perversion, seek to utilize this perverted energy in vicarious channels; that is to say, divert it to sane physiological uses? We do not know what electricity is, yet we can harness it for practical purposes.

May not the physiological utilization of that "body force" which operates when called upon as the inciting cause of the process of repair in a laparotomy wound or in other divided tissues account in a vicarious sense for the phenomena of retrogression in, or disappearance of, a cancerous growth? Or may we not explain Coley's occasional results in the treatment of the cancer group on the ground that the cytophagous reaction which ensues after the injection of the toxins used involves the diversion and engagement of considerable energy? It is a fact that the setting up of an actual erysipelas, or its spontaneous occurrence, or the incidence of a number of consecutive attacks of erysipelas has been more efficacious, or at least less evanescent in effect, than the mere exhibition of toxins, because of the prolonged and persistent demand on the forces concerned in a very active phagocytosis and in local repair.

Castration is said to have no hastening influence on the time of the occurrence of the disease, but this may be due to the mutilation involved, operating in like manner to oöphorectomy.

The problem appears to resolve itself into the question of how we can best provide vicarious avenues for the operation of forces which otherwise will expend themselves in other quarters with disastrous results. Our operations usually exercise a salutary effect temporarily, but we do not extirpate the fundamental factor, and the cancer recurs too often in or near the scar when the process of repair is complete, or shortly subsequent thereto. We must in some way contrive to harness the force concerned until such time as it shall cease to operate. The occasional successes of surgery seem to depend upon the degree of potentiality of this force, or upon its "quantity," which determines degrees of malignancy.

Through this hypothesis we can account for the "spontaneous" disappearance of cancer, occasionally noted, by invoking the probable occurrence of some readjustment of the economy's energy. Infections like la grippe, erysipelas, or malaria (Dahlgetty has called attention to the relative immunity of the malarious women of Hindoostan) may account for the phenomenon. Phagocytosis incidental to the breaking down of involved tissue may, if intense, occasionally suffice, though a local phagocytosis would not be as efficacious as a general cytophagous participation, as in erysipelas. It appears essentially to be a question of adequate vicarious utilization of perverted energy. Foreign protein reactions might be made to play a part.

Early and radical extirpation of a cancerous growth is a *sine qua non*, but instead of stopping there we should perhaps *from time to time* remove areas of cutaneous and other tissue and transplant the grafts. The efficacy of such a procedure could easily be determined by animal experimentation upon cancerous mice.

We must also consider the metamorphosis of benign into malignant growths. Here the tumor merely plays the part of a local irritation, the epochal occurrence in the organism of perverted energy furnishing the essential factor.

After the menopause, the degenerating, atrophying female sexual organs themselves constitute, in a sense, foreign bodies, and are therefore especially liable to attack, awaiting only the postulated epochal factor in the malignant equation.

We leave the matter at this point, with no apologies for our confessedly crude attempt to brighten a dark subject, but with the sincere hope that our article has been suggestive.

Milk Versus Meat.

Nowadays even our food has become the subject-matter of propaganda. Meat, in particular, is being set forth by the Committee on Nutrition of the Institute of American Meat Packers as an indispensable food and as one devoid of many of the dangers attributed to it by so great a number of authorities.

In fact, the committee aforesaid has appointed a sub-committee on Corrective Education, which is obviously a mere euphemism for propaganda.

For our own part, we wish to say that we are willing to accept the teaching of McCollum of Johns Hopkins on the score of the indispensability of meat as against that of the packers' propagandists, and that teaching is that "We could entirely dispense with meats without suffering any ill effects whatever."

As to the dangers cited against meat-eating, some indeed are unreal, but others are actual.

At the same time we know that the eating of a reasonable amount of meat, especially on the part of manual workers and the young, is dietetically rational and advisable. We are even willing to concede that the eating of a moderate amount of meat probably does no harm to the majority of other people. But we doubt very much if the propagandists would be greatly disappointed if they were to find the American people greatly exceeding their past meat consumption, whether as a result of the committee's campaign or for other reasons. We cannot imagine them becoming greatly excited over such a contingency and conducting an intensive campaign against the excessive consumption of animal protein.

There is probably a very definite limit to the scientific spirit and zeal of these self-constituted arbiters of what should be eaten by the American people, and how much.

It is more milk rather than more meat, that the people need. In so far as the production of meat interferes with the production of milk a great evil arises. Milk is an indispensable food and every means, not excluding the total elimination of meat, should be adopted to increase its use. We have no doubt that our devotion to the fleshpots is the greatest single factor in the present restricted use of milk, which is the most unfortunate phase of our dietetic habits.

We could well dispense with the packers altogether if such a consummation would result in a proper consumption of our most valuable food substance.

If propaganda must be fought with propaganda let us have another committee on Corrective Education of a different sort.

The suitability of Professor McCollum for the chairmanship of such a committee will not be contested.

X-Ray Burns.

Like the proverbial accidents which will happen in the best regulated families, *x*-ray burns occur at the hands of expert röntgenologists, now and then. It is by no means always a matter of unskilful application of the rays.

The burns so produced have three pronounced characteristics: they do not tend to heal, exceeding even ordinary burns in their indolence; they are exceedingly painful; and the peculiarly irritative nature of the lesion invites malignant manifestations.

Such burns do not appear for some time, as a rule, after therapeutic *x*-ray dosage. Several weeks may elapse, and then one or more seemingly inocuous and apparently superficial areas of necrosis may become manifest in the rayed region. These spots show a yellowish coloration, coalesce and finally a more or less extensive sloughing begins. The pain is atrocious and only the simplest dressings are tolerated. The exhibition of anodynes becomes imperative, and to the distressful picture is added some degree of narcotic addiction.

The pain may or may not be referred to the burn proper. In come cases it may seem to be located internally, or at some point several inches away from the lesion. In the latter case it is probable that there is an associated neuritis.

The practical point in the successful management of *x*-ray burns is their excision before the patient has suffered for many weeks and incurred the additional dangers mentioned. The relief of pain is immediate and prompt withdrawal of narcotics practicable.

Thiersch grafts are laid down after the excision, but in a region like the abdomen it is usually possible to do a flap operation with suture.

While the sloughing incidental to these burns is somewhat superficial, involving only the true skin, tissue alterations will be observed to have extended down to the fascia, perhaps including it. The fat, for example, on section will look devitalized in comparison with the normal adipose tissue. Therefore it is well to go far and wide of the involved area in planning and carrying out the excision.

As soon as it is certain that the tedious and painful course outlined is in store for a patient, and the necrosis has reached its limits, nothing is to be gained by further delay. Operation obviates long months of suffering.

There may be an underlying diathesis in some of these cases accounting for an accident so unfortunate, for, as has been said, the most expert precautions do not always safeguard a patient. Leaving out of consideration unsilful application of the rays, what general condition of devitalization, characterized by special vulnerability to skin insult of all kinds, would be most likely to play a part? We should say hypothyroidism, particularly if there be a degree of myxedema. This is intended to be merely suggestive, but since the writer has seen a severe burn occur in a patient of this type, it has occurred to him that many patients must be referred for *x*-ray therapy in whom the partial myxedema of Hertoghe has not been detected and taken into consideration. These may furnish the especially vulnerable type, given which, burns may be practically unavoidable. In the case cited, the myxedema was taken into account, with corresponding precautions, and yet the burn supervened.

Another factor, of a local character, which ought to be recognized in the production of these burns, is the irresponsible application of some chemical like iodine, on the part of the patient himself, during or after the *x*-ray therapy, to the area fated to be involved, or even near such an area, with consequent devitalizing reaction.

Index for 1921.

The index for 1921 will not be published in the reading pages of THE MEDICAL TIMES as heretofore but will appear separately. We shall be very glad to furnish everyone with a copy of the index upon receipt of a communication signifying such a desire.

Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M. D.

An Intellectual Eggshell Period.

"The steadily progressing relegation in this country of the lusts of the body to a furtive subterranean life—the climax of the neo-Puritan régime under which we live before, as we hope, the inevitable reaction comes upon us—has had disastrous social consequences; this will hardly be denied. Healthy sexual impulses have been transformed into a back-of-the-barn sort of an affair; natural laziness, the deep instinctive contempt for work as such and the necessary forerunner to the play, or creative impulse, has become a sin against the modern spirit; the drinking of wine, an amiable and glorious tradition, has been ignominiously thrust into the environment of what is graphically and accurately known as a blind pig; the impulse of anger and belligerency has been drained away by a ridiculous emphasis upon physical training of the set, mechanical type and by games which have little of the sting of adventure left in them. Santayana a few years ago diagnosed the case correctly when he said that the true symptom of the anæmia of the age was its emphasis upon virility—and ironically enough, at a time when most of Europe is suffering from malnutrition, never in America has the preoccupation with physical well-being been so great. It greets us daily in the street-cars with their eternal indigestion-cure advertisements; in the newapapers with their page displays of how life may be extended; in the interminable interest in interstitial and other glands and in frequent stories of how run-down men of sixty can be changed into frolicsome colts of twenty-five. It would require a diligent statistician to enumerate the different brands of toothpaste, the thousands of new styles of soap, the long list of patent antiseptics. We want to acquire life, as we acquire possessions. We are afraid of dirt; afraid of disease; afraid of death. We are afraid even of morbidity. And most of all we are afraid of unleashing any of those natural impulses of the body which, by the merest unhappy chance, might lead even remotely to any of those things. Yet to be so afraid of disease and death, almost hysterically afraid as we are, is at bottom only to be afraid of life itself. The coward, says a Japanese proverb, dies many deaths, the brave man only one. Our modern psychoanalysts can tell us a pretty story of the many American neurotics they have to treat for this more fatal disease of anticipatory extinction.

"Now, this exaggerated emphasis upon health, with its invariable concomitant of an iron discipline over what are regarded as the wayward impulses of the body (a similar discipline was the precursor of Sparta's downfall), is always the stigma of true anæmia as it is the first characteristic of Puritanism. True health is joyous and reckless, it comes from plunging fearlessly into life; it has little relation to our contemporary specious well-being that is but a life-long grovelling before bacilli. Above all, Puritanism loves to hide its terror of joy and natural animal gaiety behind the arras of Anglo-Saxon humanitarianism and an intense regard for future generations—a regard, by the way, biologically suspicious in itself, since those races which have given little or no thought to the welfare of future generations seem to have produced the most numerous and the most healthy progeny. But the point here is that this shivering, corn-fed timidity before the joyous waywardness and gaiety of life dominates in American culture and social manners today. It may be inwardly weak, as we believe it is; yet it occupies the strategic position in our contemporary civilization. Able to set the social standards, it keeps the majority of the populace (which secretly despises these arrogant minorities) screwed up to a kind of verbal and external obedience. That is the inevitable price we have to pay for still living under the pioneer tradition, where to go against the tribal sanctions was, as it still is, the ultimate sin. Because such uniformity was a pragmatic necessity in the early days of our national life, we are still today—when conditions are so rapidly changing—content to be led around by the nose by these self-appointed dictators of national morals. Sooner or later there will be a reaction against them.

"For fundamentally, so we think, the American temperament (as distinguished from the purely Anglo-Saxon temperament) is not of this morbid, timorous, Puritanical, conformistic strain at all—life would be intolerable, if we were so pessimistic as to have to think so. Puritanism of the kind that rules us today came from the fens and dour marshes of Prussia, from a land of fog and brutality and no joy. It acquired certain hypocritical twists in its passage through the British Isles, although it has never changed its basic character. But it is a quality of thought and life really not adapted to the American environment and temperament at all, and only a sort of deliquescent pioneer docility, so to speak, gives it its temporary strangle-hold. We are a land of sunshine and plenty; a land of sparkling, electrical air; a land of many strains of blood, quickly transforming themselves in the amalgam into a type quite distinct from the Anglo-Saxon (just as the American Indian, originally Mongolian, soon became a distinct type). Give us half a chance, and we like nothing better than to laugh and play and be gay. We have abundant vitality, if the truth were known; it is just an historical anachronism that today we are ruled by the anæmic, the feminine, and the fearful.

"But where then, in this unpleasant transition period, does our vitality express itself, cramped and thwarted as it is? Subterraneously, as we have said, on its more joyous side. Into business and the making of money on its aggressive side, although here too a great deal of romantic nonsense is talked about the "intense" American business man, for business is almost as much a game with us as golf or baseball. On its darker side, it goes into lynching and violence of all kinds. And on the side of plain neurology, if one likes, a great deal of energy is consumed in gum-chewing, rocking-chair ecstasy, and "jazz." Pitiful substitutes, to be sure, and often unpleasant ones from the purely medical point of view, as any honest psychiatrist can tell us. Yet proof, too, that all vitality has not been quite vacuum-cleaned out of us by the moralists. The very energy of our contemporary adulation of our anæmia is proof—well, proof, paradoxically, that the vitality to destroy it is still there.

"But none of this thwarted energy—and it is a very melancholy thing to reflect upon—gets into our intellectual life. With us it was a natural pioneer tradition that to be interested in the life of reason was in itself rather feminine and sissified. We are far from having finished with what Mr. Van Wyck

Brooks has so aptly called the apotheosis of the low-brow. And for the next generation of young men, who will still in all probability be living under the tyranny of anæmia, the outlook is particularly black. Balzac had a very fine phrase to describe a period through which every young man ought to go, the period of *nostalgie de la boue*. Where, however, will this next generation turn when this period of late adolescence comes upon it? There will be no mud, only Y. M. C. A.'s and Chautauquas—and back-of-the-barn. The healthy and vigorous will turn to the subterranean expression of their vitality, the only expression vouchsafed them. The censorship and the social conventions will prevent any of this vitality finding its natural vent in literature or in art, where it might be lifted into rhyme and color, as youth, when let alone, is usually eager to have it. Those who have the very vitality most needed for the true life of the mind will be shame-faced and secretive and furtive about those very impulses, which, if they but understood them, did them the most credit. Consequently the intellectual life of the nation will be left to the colorless, the timid, and the weak. It will be a period of *preciosité* and dilettantism in a bad sense—that is, a period arising not as a kind of reaction to too sturdy vitality (like the *fin de siècle* period in the France of Baudelaire and Verlaine) but from a shrinking before the facts of life. It will be thin and brittle, like an eggshell easily cracked, but an eggshell without an egg, either rotten or sound, inside it, an eggshell covering an intellectual void."

—*The Freeman*..

Cause of Sleeping Sickness.

It is a good many years ago now that a form of sleeping sickness which attacked horses and cattle in Zululand was discovered to be spread by a tsetse fly; the disease was due to the activity of a blood parasite known as a trypanosome and it was carried from the sick to the healthy by the tsetse fly.

It was this discovery which had such fertile consequences when sleeping sickness ravaged the population on the shores of Lake Victoria Nyanza in Uganda, for one of the members of the investigating commission had studied the subject in South Africa and was able to set their inquiries on the right track. As it turned out the tsetse fly of Uganda, the Glossina palpalis, was easier to deal with than his southern tribesman, the Glossina morsitans. For the former only flourishes by water, and, after 200,000 lives had been lost in Uganda, the population was saved by being removed inland.

But Glossina morsitans is independent of water; it flourishes anywhere, and it is so far from being suppressed or evaded at the present time that, according to today's Reuter telegram, it is devastating stocks in Zululand until many of the young settlers have been brought near to ruin. The primary question is, "From what source, what large and constant reservoir, does the fly procure the infection which carries?" The Zululand settlers maintain that the big game for which certain reserves are maintained are the hosts which feed the fly, and the Minister of Lands is stated himself to have made some rapid investigations which bear out this view.

An elaborate inquiry was made into this subject in Rhodesia by a commission which included representatives of the Liverpool School of Tropical Medicine, and the commission found that certain animals, especially the antelope, were heavily infected with the trypanosome. The news from South Africa now is that large herds of antelopes move in the neighborhood where cattle have been attacked, and that the tsetse fly has been found in great quantities among them. Here is a pretty problem for the South African Government, and there are two faces to it—first, to make a systematic investigation in order to place it beyond doubt that the big game enable the fly to spread the disease, and secondly, if it be so, to find a remedy.

Dr. Warrington Yorke, a member of the Rhodesian Commission, suggested that after a careful analysis of the present conditions the big game in the affected quarter should be driven off and kept at a distance for two years, and that then another analysis should be made, after which the connection of big game with the disease in that area, whether among human beings or cattle, would be finally established. A drastic remedy, but it is for the South African Government to say.

(Continued from page 300)

ple realize that when a day's work is done some form of relaxation is advantageous. No man today of any thoughtfulness will tell you that he takes a quota of alcohol to increase his output of muscular work or to increase his ability to write or think clearly. They frankly admit that when they have a definite and delicate job to do they want to be free from the effects of alcohol. On the other hand, they give as their reason for drinking that when they come home tired from their work or worn out with business and professional cares they want to be freed from them as rapidly as possible and that alcohol brings the needed relaxation. They state that they can become, through the effects of a cocktail or a glass of wine, a social rather than an unsocial being, that this aids them in putting aside the daily grind and entering into their family life and social relations generally with greater rapidity. They argue further that since no experimental work has ever shown that the amount of alcohol they consume has any detrimental effect upon their character or ability to work on the following day, they see no reason why they should not continue to live as they have in the past.

"Regardless of what scientific results may show and what the opinion of the small consumer of alcohol may be, the laws of the country have decided that the manufacture and sale of alcohol must be eliminated. The prediction of the outcome of this experiment is more difficult than most people imagine. Relaxation, as we pointed out above, will be obtained in one way or another. Whether the outlet will take place along sane lines, as smoking clubs, coffee houses, greater outside exercise, or along lines far more pernicious than alcohol—for example, in some form of drug consumption or in greater sex freedom—remains to be decided.

"If one examines the history of races, the fact appears that the stronger nations have always been the largest consumers of alcohol and have used the most varied forms of it. That alcohol has had any serious effect upon the efficiency of the French, English, Scandinavian, German and Austrian nations cannot be put forth seriously. The argument is often made that Russia's present condition is due to the large consumption of alcoholic drinks. A more reasonable view is that their education is so poor,

their outlets for social relaxation so limited and their climate so severe that they have learned to use alcohol as an anaesthetic. With better social conditions alcohol would no longer be used as the only source of relaxation."

Every physician knows that in merely writing "Spiritus Frumenti" the resultant bottle may contain any thing from grain alcohol and water to rare old bourbon—of course the latter is very "rare." Personally, I have found it impossible to find a druggist carrying a definite, standardized whiskey of fixed therapeutic potency. As to the high grade liquors and wines, they simply cannot be procured.

This brings us to the imported goods. Merely to import an alcoholic does not make it good; far from it, for, because of war conditions, Scotch and Irish whiskies, English dry gin and French brandy in many cases were of necessity allowed to recede from their high standards of excellence. The wines that came from Spain and Maderia and other of the Latin countries did not deteriorate to any extent.

If you were to read the lists of liquors imported into the port of New York as published in "The Mercantile Guardian" of London, you would immediately conclude that they were very common and should be easy to procure medicinally. In one issue, the imports were as follows: Gin, 2,900 cases; whiskey, 2,700 cases; champagne, 3,738 cases.

You are at liberty to make your own deductions. In Philadelphia, for a long time, I found it impossible to order any kind of imported liquor.

For many years I have advised the use of certain of the imported liquors. One I found to have almost a specific action in certain types of interstitial nephritis; another, Dr. Von Norden had told me in Vienna, (1912) was the only medicine he used in the treatment of diabetes. Neither of these whiskies can be procured locally.

I made an inquiry into the import situation and found but two American agencies making a definite effort to distribute their goods through the regular pharmaceutical channels. The principal trouble was that many of the drug trade found greater profits selling inferior goods. Another drawback was the uncertainty of the status of the former wholesale liquor dealers and the ruling that all liquors must be handled by wholesale drug houses.

The remedy, of course, lies with the physician who has the privilege of definitely writing for the liquor which he wishes to employ. This will be of little use at the present time, however, as there is absolutely no general distribution of the imported liquors, nor is there an original, dated, guaranteed package of the domestic goods.

2660 No. 16th Street.

Syphilis

Motion of the Spirochete Pallida.

F. W. Oelze says the Spirochete pallida is differentiated from the non-pathogenic buccal spirochetes, more particularly the spirochete dentium, primarily by the character of its motion. By means of a special appartus, with light and dark-field condensor, as well as other improvements of the original ultramicroscope, the author was enabled to obtain remarkably good pictures of unstained or stained specimens. On investigating the locomotion of the Spirochete pallida with this apparatus, it will be found that a distinction must be made between *motion* and *progression*. In fresh quartz-chamber specimens, observed at body temperature, the Spirochete pallida presents the familiar rotatory motion, which can only be recognized as such by careful examination. At first an impression is conveyer of a to-and-fro swaying of a double elastic pendulum. Evidently, the appearance of the spirals may stimulate movements, since they are seen in variable perspectice while swyaing to and fro. This unanimous swaying of the ends of the Spirochete pallida is of importance for the diagnosis. Especially in specimens which contain several spirochetes in the visual field, the impression of a certain rhythm is produced, which is characteristic of the pallida in contradistinction from the buccal spirochetes. On careful examination, the pallida is found to be acutely rotating. The apparent swaying to and fro is explained on the basis of psychologic physiology. The pallida rotates, but there exists no perfectly straight specimen; they are all slightly curved. Hence the curved ends describe circles in the rotation and are seen with special distinctness when they appear in the plane of the object-carrier, producing the impression of the spirochete swaying to and fro in this plane. The last convolution of the spirochete often presents an independent, more rapid motion than the remaining portion. It is noteworthy that a spiral is frequently missing, a straight more or less extensive segment appearing in its place. This straight segment may also change its position during the rotation; this goes to show that in spite of the so-called rigidity of the pallida, its shape is not immutable. The spirals of the pallida are by no means regular, but only appear to be so, because in the customary magnifications they present themselves under a smaller visual angle than the other spirochetes. Under a high power, the convolutions of the pallida can be seen to be very irregular, in fresh as well as in Giemsa preparations.

Besides rotations, the pallida has a noteworthy "bent" motion. This bending takes place near the middle, lasting from one-fifth to two-fifths of a second, although the pallida may remain for a long time in this bent attitude. As a rule, it bends towards the size of its slight curvature. The bending does not involve a loss of elasticity of the spiral. As to a progression of the pallida being cause through rotation and bending, the author's accurate measurements of fresh specimens yielded the unexpected result that this is not the case. When the Spirochete pallida is freely suspended in the serum, the rotation does not induce any change in position; nor does it advance by bending, although the end of the spirochete may be displaced by 6.8 or 10 micromillimeter after several bendings. The pallida tends to change the position of its axis in space in the hanging drop, from vertical to horizontal; this phenomenon manifests itself also in the quartz chamber specimens, but has nothing to do with progression. These observations on pure serum specimens indicate that the pallida is practically immovable in fluid media. As it is known to infest the entire human body, the pallida evidently can move better in solid media. Some experiments showed that a mixture of 5 per cent. gelatine, diluted with the same amount of serum and added to the undiluted drop of secretion, constitutes a suitable substratum. Preparation and examination of the specimen must take place at body temperature. The pallida is a very sensitive organism as regards its motion, which can be observed only under very favorable conditions. The well-marked rotation of the pallida is active only in a substratum of variable solidity. It is often seen to creep several times rapidly forward and backward, in exactly the same direction; the spirochete apparently seeking to penetrate forcibly into a solid substratum. When unsuccessful it changes its direction very silghtly, about 1 micromillimeter, apparently seeking some weaker point for its penetration. Even under the most favorable conditions, these movements last only a few hours.—(*Munch. Med. Woch.*, p. 921, 1920.)

Economic Status of Forty-one Paretic Patients and Their Families.

Solomon and Solomon find in a normally self-supporting group of families, nearly three-fourths had less income due to the entrance of paresis, indicating a general decline in their standard of living.

At the time of commitment between one-half and three-fourths the paretic patients had declined in working capacity, although most were still employed. Almost one-half were irregular at work or changed jobs frequently, but only a few changed to less skilled labor.

Sudden cutting off of the patients' income, however, forced nearly one-half their wives to work, and two-thirds their families to receive permanent aid.—(*Mental Hygiene*, July, 1921.)

On the Ravages of Congenital Syphilis and Its Prevention.

Dr. S. Hata, Kitasato Institute for Infectious Diseases, Tokyo, gives a critical review based on statistics drawn from the cases permanently examined.

Investigated the reproductive power of married women who showed a positive Wassermann reaction and who had been married for three years or more:

A. Not impregnated .....about 40%
B. Impregnated .....about 60%

The fate of the foetuses of these impregnated syphilitic mothers was:

C. Abortions .....about 28%
D. Deaths within 2 years of birth....about 42%
or about 58% of living births.
E. Surviving children over 2 years old..about 30%
or about 42% of living births.

Only one-third of these surviving children will live a natural course of healthy life.

The antisyphilitic treatment in vogue, as far as we know, is not radical for congenital syphilis. Best way to decrease congenital syphilis is by treatment of pregnant mothers infected with syphilis.

Married Women.

1. Unaware of having syphilis, and who do not admit syphilis in their husbands 21%
2. Unaware of having syphilis, but admit syphilis in husbands..... 52%
3. Aware of having syphilis in both themselves and husbands..... 27%

Unmarried Women.

4. Unaware of having syphilis..... 50%
5. Aware of having syphilis..... 50%

Total married and unmarried women unaware of having syphilis (1+2+4) 62%

Total married and unmarried women aware of having syphilis (3+5)..... 38%

The early testing of the sero-diagnosis of syphilis in all pregnant women is most desirable, but even if this is considered impracticable, I should offer the following suggestions:

1. To institute a propaganda pointing out the personal and social ravages of congenital syphilis, and also the possibility of transmission of syphilis by women showing a positive Wassermann, who may be quite unaware of having syphilis.

2. To disseminate, more strenuously, information about congenital syphilis among midwives and to teach them that, if there is the least apprehension of syphilis in a pregnant woman or her husband, or if a pregnant woman has previously given birth to a premature foetus, they should advise her to undergo the blood test.

3. If a pregnant woman should show a positive Wassermann, she should be given anti-syphilitic treatment without any loss of time, should her environment permit.

4. The new-born baby of a syphilitic woman should have blood examined and, if a positive Wassermann is found, proper antisyphilitic treatment should be given and the baby put under long continued observation.

5. If either one of a married couple should have syphilis, the other's blood should also be examined.—(*Internat. J. Pub. Health*, July-August, 1921.)

A Consideration of Arsphenamine and Certain Other Organic Arsenic Compounds in the Treatment of Syphilis.

George B. Roth summarizes:

1. There is a well-marked individual variation in the susceptibility of animals to both arsphenamine and neoarsphenamine.

2. Neoarsphenamine is so unlike arsphenamine in its biological behavior that it should not be regarded as arsphenamine in a form convenient for administration.

3. Acid solutions of arsphenamine are at least two to four times as toxic as properly alkalinized solutions, the toxicity increasing directly with the concentration.

4. The toxicity of properly alkalinized solutions of arsphenamine is slightly less toxic as a 0.3 per cent than as a 2 per cent. solution.

5. The Ehrlich method of alkalinizing arsphenamine, in which the monosodium salt is formed, produces a more toxic solution than the present method used in the United States, in which the disodium salt is formed.

6. The use of impure sodium hydroxide should be avoided in making arsphenamine solutions.

7. Increasing the rate of injection of properly alkalinized arsphenamine greatly increases its toxicity.

8. Properly alkalinized arsphenamine solutions in many cases are more highly toxic immediately after their preparation than after the lapse of about 20 minutes.

9. Shaking alkaline aqueous solutions of neoarsphenamine in the presence of air increases their toxicity markedly.

10. Neoarsphenamine is a relatively unstable compound in sealed ampule and after an indefinite period may show changes in (1) color, (2) mobility in ampule, (3) solubility, (4) toxicity, and (5) odor.

11. Difficulty or incompletely soluble preparations of neoarsphenamine may be highly toxic and should not be used clinically.

12. In some cases neoarsphenamine in ampule may be rendered insoluble by incubation at 37° C. for about a year.

The margin of safety between the therapeutic and lethal dose of arsphenamine is extremely narrow and this makes it necessary to regard arsphenamine as a potentially dangerous therapeutical agent, even though every precaution is taken to handle it properly.—(*Public Health Reports*, August 19, 1921.)

Silver Salvarsan.

The most recent reports on this drug are based upon the experience of Major Walson of the Army, who treated 800 patients and gave more than 6,000 injections. The method of treatment recommended by the board of medical officers of the Army and that method used by Walson is as follows:

An interval of seven days between each dose in each course of treatment. Treatment to consist of four courses of silver salvarsan and gray oil.

In the first course of treatment the first dose to be fifteen-hundredths (0.15) gm. of the drug. The second dose to be two-tenths (0.2) gm., and each of the remaining five doses of the course to be three-tenths (0.3) gm. of the drug.

At the end of the first course of treatment a Wassermann blood test is made, and then thirty days' rest.

In the second course of treatment three-tenths (0.3) gm. of the drug is given at each of seven injections, at seven day intervals, and is followed by two and one-half months' rest.

The third and fourth courses are the same as the second, with ninety days' interval between the two. Gray oil is used in conjunction with and at the same time as each injection of silver salvarsan, using eight-hundredths (0.08) gm., by intramuscular injection.

A blood Wassermann is recommended after each course, and a spinal fluid Wassermann after the second.—(*Jour. Lab. and Clin. Med.*, June, 1921.)

Some Observations of the Use of Arsphenamin; Its Effect on the Kidneys and its Therapeutic Results

It is the purpose of Horace B. Anderson to submit some evidence, after studying 39 cases which have had twenty or more doses of arsphenamin, to show the non-toxic effect of the drug on the kidneys when administered in therapeutic doses over a comparatively long period of time and at the same time to give some data concerning its value as a therapeutic agent. The average number of treatments for these 39 cases is approximately 30 doses, 14 treatments of arsphenamin per year for about 26 months. In summing up ,the author makes the following points:

Because of its extensive use at present it is highly important that we know more perfectly the effects of the prolonged use of arsphenamin on the kidneys.

Kidney functional tests on 39 cases after they have received thirty doses of arsphenamin, each dose consisting of 4.6 decigrams, and distributed over a two-year period, fail to give any conclusive evidence of injury to the kidneys.

The efficiency of any method of treatment must ultimately be determined by the Wassermann reaction. It is more trustworthy to use at least two antigens; the acetone insoluble antigen is a safe guide to diagnosis and the alcoholic extract reinforced by cholesterin is an excellent guide to treatment.

It is impossible to say how much arsphenamin and how many courses of mercury may be necessary to produce a negative Wassermann reaction in any given case.

Six injections of arsphenamin and one course of mercury, the amount too often prescribed by certain groups of physicians, may produce one negative Wassermann reaction, but the average case of secondary or tertiary syphillis will require twelve or more doses of arsphenamin and a corresponding amount of treatment with mercury to produce a negative Wassermann reaction, and one which only with further treatment may reasonably be expected to persist.—(*Am. J. Med. Sci.*, July, 1921.)

Luetin.

Ward concludes that the complement fixation and the luetin test should be made simultaneously in every suspected case of syphilis. He reviews the literature and presents reports of investigations conducted at the Detroit Board of Health Venereal Clinic for Men.—(*Am. Jour. Syph.*, July, 1921.)

Obstetrics & Gynaecology

Abdominal Pregnancy With Living Child.

E. C. Moore, of Los Angeles, says there are many cases of abdominal pregnancy on record where the fetus has been found either dead or only a few months old. The number of cases going to term with delivery of a living child are much less numerous, while those where the mother survived and the child lived a year or more are exceedingly rare.

He reports a case as follows:

The patient, Mrs. N., 29 years of age, was pregnant for the first time, although she had been married for more than 5 years. Her last menstruation came on March 12, 1915, but was not normal, as she flowed only 1 day, whereas the flow usually continued about 5 days. Shortly after this she began to have morning nausea and enlargement of the breasts. For about 6 weeks the pregnancy seemed to progress normally, then she began to have severe cramplike pains in the lower abdomen. These pains came and went for about 2 weeks, when early one morning she was seized with excruciating pains in the lower abdomen, more pronounced on the right side. She felt very faint and had to vomit. Her attending physician advised an operation at this time. She remained in bed for 10 days, occasionally having a great deal of pain, which gradually became less severe. Quite frequently between the second and third months there was a slight bloody vaginal discharge. During the sixth month of pregnancy she had very little pain, but from that time on she vomited a great deal and the fetal movements caused much pain.

On November 12, 1915, her physician, Dr. Speicher, decided something must be done to relieve her and asked Dr. M. L. Moore to see the patient in consultation. Upon examination, the position of the child seemed abnormal, the cervix small and undilated, so an abdominal operation was advised. The patient would not consent to this until November 27, 1915. At operation, I found the omentum and small intestine adherent to the anterior abdominal wall, which, after separating, showed a large mass covered by small intestine and omentum, showing recent inflammation and covered with lymph. The mass had the appearance of a twisted pedicle cyst. The veins in the omentum were decidedly enlarged. The uterus was about the size of a 3 months' pregnancy and was pushed to the left by this mass. The mass was attached to the posterior surface of the right broad ligament and to the lateral pelvic wall and also extended up toward the liver, being attached to the omentum in this region. The colon was free from any attachment. The cord from the placenta extended to the left up under the spleen where the child was found free among the intestines, not surrounded by any sac. The intestines on the right side were more or less adherent to one another, due to the fact that the membranes were adherent here to the coils of intestine. Clamps were placed on the broad ligament below the attachment of the placenta and the entire broad ligament with placenta was removed *en masse*. The child was a girl weighing 5 pounds and 9 ounces and had no deformities. In a letteer received from the mother, dated November 12, 1920, she states that both she and her little daughter are well.

This makes 21 authentic cases and undoubtedly many others could be included if it were possible to obtain the necessary information.—(*Surg., Gyn. & Obstet.*, July, 1921.)

Wassermann Routine in Pregnancy.

Now that the Wassermann test has been accepted as conclusive means of diagnosis, every case of pregnancy should have a routine serological examination, even when no suspicious symptoms are present. This might be regarded as a prophylactic measure. Gonorrheal ophthalmia is combated by a routine instillation into the eyes of every newborn child and in instances failure to do so is punishable. The prophylaxis of diphtheria is another recent development. It is said that at least 40 per cent. of syphilitic women present no objective symptoms nor are they aware of their condition. This accounts for the widespread character of the disease and its innocent propagation. Hereditary syphilis is one of the most important factors responsible for many chronic diseases and the obstetricians must consider themselves responsible to a certain degree. The recent work of J. Whitridge Williams and others opens a field for broad study. If a study of a series of consecutive cases shows positive Wassermann reactions in four or five per cent., it is probable that the distribution is as extensive as is usually assumed. A more extensive study of this subject will do much to reduce the incidence of this disease.—(*Amer. Jour. Obst. and Gyn*, April, 1921.)

Surgery

Results in Open Treatment of Fractures.

Joseph F. Smith, Wausau, Wis., summarizes briefly his methods and results in a group of 97 fractures in which he has employed open treatment in one form or another.

His custom is to treat by the open method only those cases in which it was impossible to *secure* and *maintain* satisfactory approximation by the older methods. It is recognzed that there exists a wide difference of opinion as to what should be regarded as satisfactory approximation. End-to-end apposition of one-half to two-thirds of the fractured surface, with good alignment and without rotation deformity he has regarded as satisfactory without recourse to open methods. In cases in which these conditions could not be secured and maintained he has employed open treatment unless there existed general or local conditions which contra-indicated operative measures.

Smith has endeavored to employ in each individual case that means of fixation which seemed easiest of application in the particular condition presented, provided it sufficed to secure and maintain a satisfactory reduction until the proper fixation dressing of plaster or splints could be applied. Plaster casts, with windows cut out for after-care of the wound, have been the means of fixation most frequently employed. Where plates or bands have been used it has generally been his custom to reopen the wound under local anesthesia and remove the plate about two or three weeks before removal of the fixation dressing so as to allow time for the wound to heal before the patient's discharge. In open operations, particularly on the long bones, we have been impressed by the frequency with which strands of muscle, fascia, or periosteum have been found impacted between the ends of the fragments, often in such a location as to render entirely impossible anything like complete reduction by indirect methods.

Patients who have had fractures treated by the open method should be given massage and active and passive motion after removal of the fixation dressings in exactly the same manner as patients treated by the closed method. The joints should receive early attention in order to avoid ankylosis, stiffness, and prolonged disability.

In a series of 97 cases treated by open method the means of fixation employed were:

	Cases
Lane plate	38
Intramedullary graft	2
Bone graft (sliding)	4
Bone screws or bone pegs	5
Silver wire	33
Kangaroo tendon	1
Parham-Martin band	1
Open reduction, no fixation device	9
Excision of fragment	3
Steel nails or screws	6

He encountered the following complications:

	Cases
Infection (simple fractures	2
Infection (compound fractures)	12
Failure of union	1
Delayed union	3
Infection, failure of union—amputation (compound fracture)	1
Bone graft lost by infection, later union	1
Refracture by fall after removal of cast	2

Infection occurred in two cases of simple fracture which were subjected to open operation. In the first one of these, the fracture consisted of a comminuted fracture of the femur with several large loose fragments. The patient's condition was extremely bad on account of shock and exposure. The operation in this case consisted of simple circular wiring of the ends of two of the fragments with silver wire. Notwithstanding the very simple procedure a very severe infection ensued, which resulted in a long-standing osteomyelitis.

The second case was one with comminuted fracture of both bones of the leg in an elderly man due to an explosion of dynamite. In this case there was extensive comminution of both the tibia and fibula with considerable bruising of the surrounding tissues. The operation carried out in this case consisted of a sliding bone graft, which was done about 4 or 5 days after the injury. Evidently the injury to the surrounding tissues made conditions unfavorable for open operation; infection followed with loss of the graft and a long-standing osteomyelitis which required several months to clear up.

In both these cases healing finally ocurred with union. In a few of the other cases there have been slight superficial infections which cleared up without any osteomyelitis after removal of the fixation device.

Smith's impression is that the preservation of the periosteum is very important in open operation, especially on the long bones; that in no case should the periosteum be stripped or scraped from the bone in applying the fixation device. In using the Lane plate he is very careful to preserve the periosteum, applying the plate outside the periosteum and after the screws have been turned down securely, they are given a half turn backward, in order to prevent harmful pressure necrosis on the bone and periostum—(*Surg., Gyn. & Obstet.*, July, 1921.)

Tuberculoma of the Ischio-Rectal Fossa—Case Report.

Curtis C. Mechling, of Pittsburgh, reported the following case at the last meeting of the American Proctologic Society: The patient was a locomotive engineer, who had a slowly developing lump in the ischio-rectal fossa, becoming more tender as the size increased. The lump was hard, fixed and apparently attached to the ischium. There was no depreciation in the patient's general health, and the location of the tumor alone caused his inability to follow his usual occupation.

X-Ray examination revealed no bone defects. Tentative diagnosis of lipoma was made, and the tumor resected, using local anaesthesia. The incision was crescentic and inside the tuberosity of ischium, to place scar where there would be little wear on it. Fixation of the tumor was very firm, owing to the large amount of surrounding connective tissue. Section of tumor released much thin pus. The pathological diagnosis was tubercle. There was no other evidence of tuberculous process in the patient.

The patient is now well and working daily, but should be considered a tuberculosis suspect, and should be under inspection at intervals for other evidence of the disease.

Cholecystectomy.

Frank D. Moore, of Chicago, thus summarizes the end-results of cholecystectomy as compared with those of cholecystostomy, as follows:

In general, cholecystectomy is the operation of choice in all cases, except where general debility, serious complications such as abscess, peritonitis or previous extensive adhesions make removal too dangerous or prolonged an operation. In these cases, cholecystostomy with possible later cholecystectomy, may be done with advantage.

It has been proved by numbers of cases and observations by various authors, that a removal of the gall-bladder is not, in itself, detrimental to the future health and well-being of the patient. Why, then, permit the patient to face the risk, not only of possible, but of probable recurrence of trouble, with the necessity of a future second and more difficult operation, when in the hands of a careful surgeon, a total removal of the offending organ may be done with but slightly greater expenditure of time and with but little more immediate risk to the patient?

Judgment in the selection of cases for removal, early diagnosis and early operation, all make for the choice and ultimately vastly more satisfactory results of cholecystectomy.

The value of this method of treatment for appendicitis is unquestioned, and it seems as logical to follow this same procedure in the case of a similarly affected gall-bladder. A diseased appendix is obviously of no use and is manifestly a source of danger. Is not a functionless and diseased gall-bladder to be regarded in the same light?

The diseased gall-bladder has also come much into the limelight, of recent years, as a focus of infection for various forms of arthritis, anæmias and general constitutional disturbances, and many removals of the gall-bladder have been followed by marked improvement in the general bodily metabolism and welfare.

It would seem, then, that cholecystostomy may well be regarded only as a makeshift or temporary resort, where conditions are such as to contra-indicate the performance of a truly remedial operation, and that cholecystectomy may be accepted as the operation of general choice.—(*Surg., Gyn. & Obstet.*, July, 1921.)

Administration of Neosalvarsan.

J. B. Bostick discusses the chief danger and difficulties in giving neosalvarsan, which are:

1. The drug is contaminated by air in an imperfectly sealed tube and becomes oxidized or altered;
2. The drug becomes oxidized or altered prior to administration after ampule is opened;
3. The solution is not delivered into the venous circulation.

Author gives in detail methods by which these difficulties may be overcome. The greater part of the article is devoted to the problem of introduction of the drug into the vein.—(*U. S. Naval Med. Bull.*, July, 1921.)

Correspondence

"Death in Man."

To the Editor of THE MEDICAL TIMES:

In these days of advanced psychological thought it is disconcerting to find Dr. Arthur MacDonald, of Washington, D. C., out of step. Worse than that, he is not even in the procession, but is rambling along behind, and I say "rambling" advisedly. In THE MEDICAL TIMES for last July, the Doctor writes on "Death in Man," and this is the way he rambles at the very outset of his article:

"From the point of view of science alone, all things perish, except possibly energy. Life is a form of energy, but as such it ceases to exist; it may pass into some other form of force."

Note the Doctor's point here: "All things perish, except possibly energy," and, further, life as a form of energy "may pass into some other form of force."

Then he says: "According to science, death ends all life, and the functions of the body cease in the same manner and about the same time. To suppose that in some way consciousness persists is like assuming that digestion persists after the body is dead." The Doctor has apparently studied only the dissolution of the body, or physical decay, and not the phenomena of consciousness at the time of death, although he does, strangely enough, tell us of instances of mental powers in the dying, sometimes, that are greater than any manifested during the healthiest part of their lives. If "death ends all life" and it is as absurd to expect consciousness to persist as it would be to expect digestion to persist after physical death, why these strong mental powers at the time of death? Here all the physical functions are failing rapidly but consciousness is asserting itself with greater power than ever before. If consciousness is dependent upon the physical organism why doesn't it die with the organism?

It is just this certain independence of consciousness at the moment of death, physical death, that started such men as Sir Oliver Lodge, Sir William Crookes, Sir Arthur Conan Doyle, Flammarion, the astronomer, and Lombroso, the anthropologist, in their researches into the phenomena of death, and their findings are accessible to Dr. MacDonald or any other investigator. But, this is not all the evidence in favor of the persistence of consciousness after physical death. It is commonly known to up-to-date physicians that there are constantly occurring cases of suspended animation where, nevertheless, all the signs of physical dissolution are present and the body is made ready for the undertaker. In these cases, hours, and even days after the physicians have declared the person dead, consciousness has returned and revived all the physical faculties, and the person continued to live right on in a normal way. This evidence is so commonplace that one is amazed more and more as he reads Dr. MacDonald's article.

In my forthcoming book, "No, Not Dead; They Live," I have taken up the subject of consciousness from the materialistic view I had as a young student of anatomy to my certain conviction now that consciousness not only survives bodily death, but goes on forever, and I have quoted medical and other authorities in support of my findings. I shall ask Dr. MacDonald to accept a copy of my book, and in the meantime (I am sure that the Doctor will stop long enough to laugh with me at my suggestion) if he is pressed for time let him follow Lord Chesterfield's advice to his son, that even when one is paying his devotions to the goddess, Cloacina, he can add to his stock of knowledge.

WILSON GILL BAILEY, M.D.

Camden, N. J.

American Physicians Not Welcome in Berlin.

To the Editor of THE MEDICAL TIMES:

For the benefit of physicians and students desiring to take post-graduate or clinical work in Europe, may I give you a few points for their guidance? I have been in Europe for the last few summers, and while abroad visited a number of hospitals. One of my friends went to Berlin during August, 1921, intending to do some clinical work, and was told that American physicians, for the present cannot receive post-graduate instruction. This gentleman traveled through Germany and lost considerable time and money while attempting to study. It was entirely different in Vienna. He was welcomed, given clinical opportunities, and found very hospitable conditions. My own experience is limited to Vienna, where I met a number of physicians who informed me that all Americans are welcome, both graduate and under-graduate.

LOUIS FISCHER.

New York.

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Mellin's Food
4 level tablespoonfuls
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The principal carbohydrate in Mellin's Food is maltose, which seems to be particularly well adapted in the feeding of poorly nourished infants. Marked benefit may be expected by beginning with the above formula and gradually increasing the Mellin's Food until a gain in weight is observed. Relatively large amounts of Mellin's Food may be given, as maltose is immediately available nutrition. The limit of assimilation for maltose is much higher than other sugars, and the reason for increasing this energy-giving carbohydrate is the minimum amount of fat in the diet made necessary from the well-known inability of marasmic infants to digest enough fat to satisfy their nutritive needs.

Mellin's Food Company, **Boston, Mass.**

The Origin of Influenza.

To the Editor of THE MEDICAL TIMES:

A correspondent asks if the evidence that the influenza originates in Central Asia has been established.

The question is pertinent. Such a conclusion has not been established, although grounds for suspicion may exist. That the epidemic of 1890-91 spread from Bokhara seems to be a fact. The preceding summer was hot and dry; the winter following was unusually cold, and a high death toll indicated a weakened population. In the spring excessive rains prevailed and the country around was marshy. With the desiccation of the marshes and the fissuring of the surface there was a sudden outbreak of influenza which spread westward along the traffic routes into Europe; hence the designation "Russian" influenza. By the following December the disease had extended to Europe and the United States.

An interesting incident should be noted in this case. Coincident with the onset in Bokhara, an outbreak occurred in northwestern Canada, far away from traffic lines. It is said to have broken out in Greenland at the same time, but the claim cannot be positively established.

Doubtless the influenza has been epidemic in Central Asia many times, but the records of its occurrence are wanting. The claim that it is endemic to that region rests largely upon the fact that the outbreak of 1889-90 centered there.

The epidemic, which in 1918 snuffed out nearly a quarter of a million lives in the United States, did not come directly from Central Asia; indeed, there is no evidence that it originated in Asia at all. Of the 176,000 deaths from pneumonia, more than 100,000 above the normal number, the excess must be charged also to influenza.

It is doubtful if the world is ever free from the disease at all. Dr. Parsons, an English epidemiologist, has expressed an opinion that influenza is independent of seasonal influences and doubtless this is true of the area covered by his investigation. This will not apply to the United States, however, where in 1919, seven-eighths of the deaths occurred during the first four months of the year—nearly one-half in January.

J. W. REDWAY.

Mt. Vernon, N. Y.

A Mistake Corrected.

To the Editor of THE MEDICAL TIMES:

A transposition of the wording of the last sentence in my communication of October gives a rather marvelous power to the alcohol-making properties of yeast. The sentence should read "Carbohydrates have been converted to alcohol," *et seq.*

J. W. REDWAY.

Mount Vernon, N. Y.

Cornell's Pay Clinic.

Medical treatment by specialists for persons of moderate means is to be given at fees which cover merely the cost of service, with the opening Nov. 1 of a model "pay clinic" at Cornell University Medical College. First Avenue and Twenty-seventh Street. The clinic, the first of its kind to offer general medical service in this city, is designed to meet the needs of persons of moderate means unable to pay high specialists' fees, but who, because they are not paupers, are unable to enjoy the advantage of the charity clinics.

The pay clinic will occupy three floors in the wing of the college building formerly occupied by the dispensary. It will be open every afternoon from 1:30 until 4 o'clock, except Sundays and holidays. To serve those who cannot afford absence from work in the afternoons, evening clinics will also be open on Tuesdays and Fridays until 7 o'clock.

The clinics will be under the direction of the Cornell medical faculty, which includes some of the most distinguished physicians and surgeons in New York. In the ordinary free dispensary physicians are usually asked to give their services without remuneration. Physicians in the pay clinic will be salaried, and, according to the announcement, every effort will be made to preserve the atmosphere of dignity, privacy and consideration for patients, and the same feeling of personal relationship between physician and patient that characterize private practice.

The scientific equipment of the college, its laboratories and X-ray facilities will all be used. The rates for treatment will be as follows:

Each visit for examination and treatment, $1; medicine, laboratory tests, X-ray photographs and other supplies at cost; diagnosis of case requiring special examination and study, with group consultation of specialists and written diagnosis, $10; thorough health examination to discover possible defects and diseases and to obtain advice regarding personal hygiene, $2.50.

Appointments are not necessary but, to avoid delay, they may be made in person or by telephone, Madison Square 2126.

Speaking of the importance of such an institution here, Dr. Walter L. Niles, Dean of Cornell University Medical college, said:

"For some years there has been a growing recognition on the part of physicians, social workers and others interested in public health that there is great need of some agency through which diagnosis and treatment by specialists can be brought within the economic means of persons of ordinary income. The great proportion of the city's wage earners are self-supporting, but they do not have sufficient margin of income to pay the office fees of specialists. It is estimated that more than two million persons in Greater New York are faced with the alternative of accepting charity or going without the skilled medical attention which their condition may demand. It is to meet the need of this section of the community that we open the pay clinic.

According to Michael M. Davis, Jr., Executive Secretary of a committee formed a year ago to study the improvement of dispensary service, there are at least 2,000,000 self-supporting people in the New York City and suburbs who need medical service for which they cannot pay.

A Review of the Literature and a Discussion of Silver Arsphenamin.

H. E. Michelson and D. M. Siperstein review the literature, which is confined to the German Silver arsphenamin was suggested by Ehrlich, and finally elaborated by Kolle. The drug was first used clinically in March, 1918. Results of investigation by Kolle, Fabry, Galewsky, Gennerich, Hahn, and many others are given. Authors conclude, after a careful survey of the literature and as a result of a limited personal use (250 ampules), "We feel that we may safely state that silver arsphenamin is an efficient spirocheticide, which has a pronounced effect on the visible lesions of syphillis." The consensus of opinion of the many observers is that in the majority of cases of fresh syphilis a positive reaction becomes negative after the first course of from six to ten injections of silver arsphenamin.

There is considerable variation in the dosage. An initial dose of from 0.05 to 0.1 gm. for a person of average weight is best—with a routine dose of from 0.2 to 0.25 gm. Authors recommend technic: Dissolve the necessary dose in 10 c.c. of sterile distilled water, draw into a 20 c.c. Luer syringe, make venipuncture, aspirate about 10 c.c. of blood, and re-inject the entire solution slowly.

One of the distinct advantages is the absence of the odor which characterizes the other arsphenamins. This odor has made it impossible, or at least impracticable, to administer arsphenamin to certain patients.

There is no difficulty in determining the oxidized product. A spoiled product has a dull, muddy, grayish brown appearance, instead of the rather sparkling, clear dark brown solution.

The interval of choice is from four to seven days, and the number of doses in a course varies greatly.

The majority of observers are not in favor of using silver arsphenamin and mercury simultaneously.

There is apparently no reaction due to silver arsphenamin which is peculiar to that drug and has not been noticed with any of the arsphenamin group, with the possible exception of argyrie.

Silver arphenamin is a more complex salt than any of the other arspenamins and the physician must be on the alert for the silghtest sign of intolerance.

Although the drug has been highly recommended by neurologists, nothing conclusive has been published indicating a selective action on neurosyphilis.—(*Arch. Derma. and Syph.*, August, 1921.)

Public Service of Hospitals.

The hospital should be "a service station, not a repair shop."

It is easier to tighten and oil a loosened engine than to strive to piece together a broken one. It is better that the machine should run down than that it should break down. And so with the human machine.

Yet we do let the human machine break down. Every year there are in the United States 100,000 deaths from diseases of the heart, circulation, kidneys, unnecessary collapses of the mechanism of the body. We send for the plumber to repair

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the drainage system in our houses, for an electrician to inspect the wiring, and a mechanic to overhaul our automobile. But the human machine is left until it breaks down before the help of the repair man is sought. Over half of us have serious or lesser ailments that are still curable. Only 3 per cent. are normal. The rest have the first traces of preventable breakdowns.

This is the theory of the physician and of the hospital today: that we are no more to be satisfied with the physical condition of the average man of today than we were to be satisfied with the automobile of the 90s. This was the theory that actuated the whole thought of the greatest of hospital superintendents of this country—the thought of Superintendent Charles P. Grimshaw of Roosevelt Hospital, who has just died. It was for a steadfast belief in such a principle and for its execution that the Trustees of that hospital have adopted a memorial to Mr. Grimshaw, the third of a series of great hospital superintendents who have blazed the trail of successful hospital management in the United States. It was Mr. Grimshaw who gave to the health authorities of this country a conception of the superintendent as a public health executive rather than as an efficiency engineer or an office manager.

Large scale production of health was his theory of hospital administration. A hospital might do a notable work among the most distinguished and wealthy of patients; it might give the best possible treatment to the late Colonel Theodore Roosevelt or to Henry P. Davison in one private room; but at the other end of the corridor it must be giving service to the hundreds who could not pay for all their treatment and to those who could pay nothing.

In the past fourten years, the period over which Mr. Grimshaw was in charge of Roosevelt Hospital—almost exactly 1,000,000 visits have been made by patients to the out-patient department, and new cases have numbered 642,000. The charge that the hospital made to each of these patients was but ten cents for each visit. And during the same period, the wards of the hospital gave free treatment to those who needed to be put to bed in the hospital for a time and could not pay for it, the majority of the patients coming to the wards in the past decade being in this class. Last year the free ward days at Roosevelt numbered 31,696, and the paid ward days numbered 25,619.

This was the tangible fulfillment of the ideal of the superintendent who for thirty-four years had been with the hospital. This was the practical measure of his theory that the hospital was the health center for the masses, and that it was efficient exactly in proportion to the amount of work that it was able to do per unit of capital and expense. Nothing in those years was ever let conflict with that one purpose of the superintendent. If the hospital was engaged in the teaching of the doctors of the future, that work had to be incidental to the welfare of the patient. Primarily the hospital must be an institution devoted to the highest interest of those whom it served.

But the sphere that is affected by the life of a great hospital superintendent is one greater than that surrounding his hospital alone. It extends to the furthest bounds reached by the advice and example that he gives. It is unlikely that any city in the world has ever had such a triumvirate of hospital experts and consultants as New York. Dr. W. E. Woodbery of Fifth Avenue Hospital has been the builder of hospitals in almost every corner of the earth. Dr. S. S. Goldwater of Mount Sinai Hospital, former Commissioner of Health in New York City, has been consulted more than any other American in the hospital problems of this country. Mr. Grimshaw in hospital administration has held the supreme position. They will have their names added to that short list of great health executives in the hospitals of the United States, which now includes Henry M. Hurd, formerly at Johns Hopkins Hospital, Baltimore; George M. Rowe, formerly at the Boston City Hospital, and George B. Ludlam, formerly at New York Hospital.

In their hands have been held the reins of control of every part of a hospital. In them have been combined a thousand abilities that have taken from Vienna and Paris, Berlin and London, the foremost place in the medical world and placed it within the boundaries of the United States. They have been disciplinarians, purchasing agents, engineers, personnel officers, and, above all else, men of infinite tact. They have been a tremendous force making for the better physical welfare of the nation, and each has left his imprint upon the development of the medical and surgical institutions of America.—(*New York Times.*)

A. R. C. Child Health Exhibition.

The American Red Cross "Child Health Exposition," which has been touring the larger cities of Devastated France since May, closed recently after five months of constant exhibition. Every feature in the rearing of children according to the soundest and most approved methods was shown. Several French and American organizations joined with the American Red Cross in providing the various specialized departments. The scope of the Exposition is best indicated by a summary of the programmed departments:

1. Child Feeding; 2. Clothing for Children; 3. Bathing and Care of Infants; 4. Examination and Weighing of Children; 5. Kindergarten; 6. Dentistry; 7. Baby Contests with Prizes; 8. Child Health Cinema; 9. American Committee for Devastated France; 10. Child Health Guignol; 11. Post-Cards and Pamphlets; 12. Posters and Educational Charts; 13. Model Playground; 14. Lectures on Child-Health Subjects. A feature of the Exposition was the entuhsiastic and unanimous support which it received from the French medical profession in every city. Every local physician gave his services without charge, and most of them were occupied for nearly half their entire day, throughout the period of the exposition, in the arduous work of lectures, examinations, consultations, measurements and the judging of babies.

Ample quarters for the Exposition were furnished in each case by the municipal authorities,—usually in a public school building or municipal exhibition hall. Each morning hundreds of school children were taken through the Exposition by their teachers.

It is expected that the exposition will be continued next summer under the exclusive management of the French child-health organization.

Pulmonary Abscess in Adults Following Tonsillectomy Under General Anesthesia.

In discussing the possible dangers of tonsillectomy, hemorrhage, both primary and secondary, looms foremost as one of the risks. Yet, when measured by the possibilities of fatal issue, Lewis Fisher and A. J. Cohen, Philadelphia, assert that pulmonary complications, such as lung abscess, would be of greater importance by far. Seventy-six cases in the literature, including five of their own, are analyzed. Seventy-four of the seventy-six patients were operated on under general anesthesia, and so far as known, ether was used. All of the cases with the exception of four occurred in adults. Of the cases in which detailed physical findings were available, the favorite site of the lesion was the right lung, either the midlobe or lower lobe being involved. The possible causes of complication are discussed; but the authors do not believe that any one cause is operative in all cases to the exclusion of the others. It is undoubtedly feasible for a lung abscess to result from the aspiration of an undue amount of infective material; faulty technic certainly plays its part; other factors also enter. In their opinion, however, the most potent cause of this complication is the introduction either through the lymph or the vascular circulation of infected emboli which find lodgment in the lung structure. The one outstanding fact is that out of this series of seventy-six reported cases, seventy-four of the patients, or practically all, were operated on under general anesthesia. On the other hand, thousands of operations have been performed under local anesthesia, without a single complication, which seems to be convincing evidence that the general anesthetic, whether acting directly or indirectly, is the determining factor in the causation of this complication.—(*J. A. M. A.*)

Surgery Versus Roentgen Ray in Treatment of Hyperthyroidism.

From a study of the evidence offered by those who advocate the roentgen-ray treatment of hyperthyroidism and a consideration of his own experience, George W. Crile, Cleveland, is inclined to believe that the surgical treatment of hyperthryroidism combined with physiologic rest yields the most favorable results. Heretofore, the only valid objection to surgical treatment has been the mortality; but now surgical treatment is undertaken in every case; the mortality is practically eliminated; much time is saved, and a more certain cure is achieved.—(*J. A. M. A.*)

Incidence of Cancer in Second Breast.

One thousand one hundred unselected cases of cancer of breast were studied by Alson R. Kilgore, San Francisco, thirty-seven instances of cancer in both breasts were recorded (3.36 per cent.). In thirteen of these, the patient presented herself with both breasts already involved, the histories in the majority suggesting that cancer arose in one breast and metastasized to the other, rather than that tumors arose simultaneously and independently in each breast. Of the remaining twenty-four cases, in eleven the postoperative

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history suggested that the second breast cancer was metastatic, on account of its appearance within a short interval of time after removal of the first breast, or its development coincidently with other metistases in the axilla on the side of the first cancer, or in other organs. The interval between operation and the appearance of the cancer in the second breast in these eleven cases varied from two to thirty months, averaging twelve and one-half months.

In thirteen cases, the cancer in the second breast presented a clinical history suggesting a new and independent neoplasm, on account of a long interval of time after removal of the first breast with freedom from other metastases, or (in two instances) a comparatively short interval, but freedom from other metastases, and cure by operation on the second breast. Twelve of this group of thirteen cancers which behaved as if they were primary tumors in the second breast, occurred in patients living five or more years after the first operation. The expectancy of cancer of the second breast in women who live five years or more after the first breast cancer has been removed is shown to be from 7 to 10 per cent. The Census Bureau reports show that of all women between the ages of 25 and 29, one in fifty-eight will at some time in her life develope cancer of the breast, a percentage of 1.7 per cent. At no period of life does the ratio rise to more than one in fifty-two, or about 2 per cent. When a patient is free from metastasis for five or more years, develops cancer of the second breast, is operated on and in the course of from one to three years develops metastases or recurrences on the side of the second breast and dies after about the usual length of life for primary cancer, Kilgore says the reasonable presumption is that this patient's life might have been saved by removing the second breast before cancer developed in it.

Such a study of the records suggests that if both breasts had been removed at the first operation, thirteen cancers and at least ten deaths might have been prevented. If the patients living after a three-year interval had had their second breasts removed, then the records still suggest that ten deaths from cancer in the second breast might have been prevented. After a five-year interval, this number has dropped to six possibly preventable deaths. As only 257 of the 659 patients traced were living at the end of three years, it would be necessary to perform but 257 breast excisions at this interval to save ten lives; therefore, with absolute and ideal control of patients 250 breasts could be amputated within three years, instead of 650 at the time of the first operation and as many lives saved. One patient in five has no involvement of the axilla at the time of the first operation, and if these patients had their second breasts excised, three out of four cases of late cancer in the second breast would be prevented.—(*J. A. M. A.*)

Retrocalcanean Bursitis.

The pain in disease of this bursa is due to the pinching of the inflamed and enlarged bursa, between the Achilles tendon and the os calcis, on flexion of the ankle. Then, if in any suspected case, removal of this pressure relieves the pain, A. L. Nielson, Harlan, Iowa, says one may conclude that retrocalcanean bursitis is the condition with which he is dealing. This is accomplished by putting the patient on high heels, mechanically increasing the distance between the tendon, just above its insertion, and the os calcis, thus giving more room to the bursa and preventing the pinching of the bursa between tendon and bone, as occurs in ordinary flexion of the ankle. He has had a three-fourths inch rubber heel fitted on the ordinary low-heeled shoes, without removing any of the leather heel.—(*J. A. M. A.*)

How Anesthesia May Aid and Protect Surgery.

The general factors as they affect the surgeon and anesthetist are presented by E. I. McKesson, Toledo, Ohio, namely, the diagnosis and treatment of circulatory depression, and the application of anesthetic gases at various pressures, in which the pressure is the essential factor in the narcosis and operation.—(*J. A. M. A.*)

Weight During Treatment for Syphilis.

Almkvist records the weight twice a week in all syphilitics taking treatment. This shows that the weight generally declines under mercurial treatment and increases under arsphenamine. . . . It seems wise to counteract the decline in weight with extra nourishing food and means to stimulate the appetite, reducing the dose of mercury if other measures are not effectual.—(*Hygiea*, June 16, 1921.)

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Treatment of Arthritis.

It is stated by Arthur F. Chace, Victor C. Myers and John A. Killian, New York, that the salicylate and cinchophen groups of drugs shows comparatively little difference in their analgesic, antipyretic and "uric acid eliminating" effects. It should be noted, however, that the latter term is not sufficiently inclusive, since these drugs also stimulate, to a lesser degree, the elimination of other waste products. There appears to be no relation between the therapeutic efficiency of these drugs in infectious arthritis and their influence on the blood uric acid, a statement which is not generally regarded as applying to gouty arthrities. In the series of cases reported, cinchophen and neocinchophen seemed to have a more specific effect in the severe cases of infectious arthritis. The salicylates have the distinct disadvantage of producing marked proteinuria and casts when given in large doses. On this account, cinchophen and neocinchophen are the drugs of choice when, for any reason, it seems desirable to favor the kidneys.

Furthermore, the latter drugs appear to produce their therapeutic effect through smaller doses. The salicylates have the advantage of being better assimilated by rectum. Cinchophen and neocinchophen, particularly when given with alkalis, are better tolerated by the stomach than salicylates. Since neocinchophen is an ester instead of an acid, there is less need of using alkali than with cinchophen. In fact, when given without alkali, neocinchophen does not seem to irritate the stomach. Although a few cases of marked idiosyncrasy to the salicylates (acetylsalicylic acid), in the nature of an allergic reaction, have been reported, the experience of the authors has shown that patients are more liable to have vasomotor disturbances of the urticarial type from cinchophen. No serious instances of the latter have been observed.—(*J. A. M. A.*)

Radium Therapy of Teratoid Tumors of Testicle.

The statistics given by B. S. Barringer and Archie L. Dean, Jr., New York, emphasize the extreme malignancy of teratoma testis and that radium is a very valuable adjunct to operation in dealing with this disease. The type most often seen and most malignant, the embryonal, is the most sensitive to destruction by radium.—(*J. A. M. A.*)

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That question once puzzled Jacob Langeloth, president of the American Metal Company. He observed that the very poor who could not afford to pay anything for their support during a period of illness or convalescence could be cared for by any one of many charitable institutions, that the rich could purchase any sort of care they desired, but that the middle-class man of small means who could not afford to spend a convalescence at the usual health resort and who would not accept charity, had no place to go.

Having convinced himself that such a resort was needed, Mr. Langeloth set about to make it a reality. Having started in life as a poor boy he amassed great wealth, and shortly before his death in 1914 he made a provision in his will for the establishment of a "home" that is designed to take care of just the middle-class people he had in mind. More than $4,000,000 was set aside for this purpose, and contracts have just been let and an actual start made to bring to fruition the big dream of his life.

Mr. Langeloth was fond of tramping through the Westchester hills. On one excursion he came upon a tract of farm country, directly back of Peekskill, that seemed to him to be admirably adapted for the purpose he had in mind. This tract contained a thousand acres of rolling country in the Croton watershed section. There were hills, a lake and plenty of farm land that could easily be converted into an ideal health resort, for either Summer or Winter.

He said little to his friends about his scheme, but as it took shape in his mind he mad provision in his will for having it carried into effect. The will provided for the organization of a corporation to be known as the "Valeria Home." It was named after his wife, and provided for the appointment of a Board of Trustees to see that all details were carried out, "as soon as may be after my death." That portion of his will dealing with the plan reads:

"In organizing the said corporation I desire the Trustees, so far as may be feasible, to co-operate with a delegate to be designated by the Chamber of Commerce of the City of New York, the President of the Charity Organization Society in the City of New York, the President of the Society for Improving the Condition of the Poor in the City of New York and the President of the German Hospital in the City of New York.

"The said corporation shall be incorporated for the purpose of founding and maintaining a home to be known as the Valeria Home, to be adapted and used for the purposes of recreation and convalescent home for people of education and refinement who cannot afford independent homes or to pay the charges exacted at health resort or sanitaria.

"The home shall be open to all creeds, entirely non-sectarian and absolutely free from all religious tendencies whatsoever. Such home shall, so far as may be feasible, be self-supporting, and it is my preference that inmates pay weekly charges to be determined by the Directors, but I desire to place no limitation upon the discretion of the Directors in this respect.

"It is, however, my wish that employes of the American Metal Company, Limited, and of such corporations with which I have been connected during my lifetime, and likewise relatives of mine or my wife, shall have the preference over other applicants for admission to the home. I have observed that home of this character have been organized for the benefit of the very poor who are not able to pay anything for their support during their convalescence or during the period of rest necessitated by ill health, while no provision seems to have been made for the people of education and refinement belonging to the middle classes who would not be justified in asking for or accepting charity, but who are, nevertheless, not able to pay the prices exacted for a sojourn in the usual health resorts or sanitaria. It is for this reason that I do not desire the home to be organized as a charitable institution, but in so far as the Director may deem it advisable, that it be upon a self-supporting basis."

During the period of the war little was done to carry out Mr. Langeloth's ambitious plan. His widow married again. She is now Mrs. Anson Clark. Always in her mind slept the hope of having her former husband's great wish carried out in just the manner in which its author intended. The Board of Trustees also kept the project in mind. This board consists of Henry Bruère, who was City Chamberlain during

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In acute rheumatism. Hanzlik and collaborators (see A. M. A. Journal, issue of June 18, 1921) compared the effects of CINCHOPHEN and the salicylates in a number of cases. Large or intensive doses of the former drug relieved the pain with less renal irritation than usual under salicylates. Albuminuria when it occurred was not nearly so severe.

In arthritis. Grace, from his experience, regards CINCHOPHEN as the drug of choice when it is desirable to favor the kidneys. (See A. M. A. Journal, issue of Oct. 15, 1921.) He also found it better tolerated by the stomach in the cases treated.

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Mayor Mitchel's Administration and is now a Director of the American Metal Company; Job E. Hedges, Richard Ely, Mr. Hedges's law partner; Julian Beatty, a member of the American Metal Company, and, of course, Mrs. Clark, ex officio.

Although the scheme was kept alive, principally through many ideas submitted by Mrs. Clark, nothing tangible was done until Mr. Beatty took the matter actively in hand and interested Charles H. Higgins, the architect, of the firm of Delano & Aldrich. From that time the project rapidly took shape and with the actual letting of contracts last week there is every indication, said Mr. Higgins, that the home will soon be completed.

These contracts will put 500 men at once to work in mill, shop and field. The stone for the buildings will be quarried in the immediate neighborhood. The land has been purchased and the work of landscaping is already under way, although it will not need much landscaping, according to Mr. Higgins, who believes the ground should be largely left in its natural state, with the present farm houses and other buildings only being demolished.

The home will have natural attractiveness. Dickinson Pond, lying at the foot of Keg Mountain and Salt Hill, will be transformed into a lake. Houses built of natural stone in early Dutch style of architecture will be designed to accommodate 3,000 guests a year. The grounds will provide for baseball, golf and tennis, and there will be a swimming pool and boathouse and plenty of skating in Winter.

"Unity of composition is present in the plans that have been drawn," said Architect Higgins. "The Hall group, with a principal building in the centre, will provide for service and they will contain dining rooms, kitchens, with refrigerating plants, a garage and shop and employes and administration quarters.

"The sleeping quarters are in separate houses and each will take care of from twenty to thirty guests. A terrace will connect the houses. Beneath the terrace there will be a cloister through which guests can pass in inclement weather from the houses to the main hall. A short distance from the hall will be the Field Club, designed for dancing, moving pictures or other forms of assembly."

Guests, according to the trustees, will be welcome at Valeria Home in the Spring of 1923.—(*New York Times.*)

Vapo-Cresolene

Diptheria bacilli, planted on blood serum, in Petri dishes moistened with sterilized water, were freely exposed to the air in an enclosed space of 119 cubic feet, regulated to body heat. At the end of twenty-six hours exposure to the vapor of Cresolene there was no growth evident on the serum. Smears from the latter on other specimens of serum failed to give any growth.

A second experiment was made to verify the first. The time of exposure being sixteen hours instead of twenty-six hours, with the same results as above.

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Ethyl Chlorid in General Anesthesia.

Observations made by Arthur E. Guedel, Indianapolis, with the use of ethyl chlorid in general anesthesia in about 2,000 cases are recorded. These were mostly for operations of from one to five minutes' duration. About 200, however, were for operations lasting from fifteen minutes to one hour each. Nineteen cases carefully studied were of an average length of fifty-three minutes. Ethyl chlorid in overdose produces one of two sets of symptoms. He has designated these as the spasm type and the respiratory depression type. Approximately nine out of ten of all patients overdosed with ethyl chlorid manifest the spasm type. The first indication of approaching spasm is a sardonic grin, due to contraction of the muscles about the mouth; next a beginning contraction of the masseter muscles, and a beginning crowing of inspiration. This crowing, due to partially obstructed inspiration, is the real warning that the dose must be reduced. If the overdose of the drug be continued, the spasm progresses rapidly until, in about one or one and a half minutes more, it will have become a complete respirtory obstruction, and a state of peripheral asphyxia is present. The spasm, once inaugurated, develops so rapidly that cyanosis does not appear in the usual case until the obstruction is almost total. The mouth must be opened, the tongue pulled far out and vigorous chest compression made. The depression type is a progressive central respiratory depression, and occurs in approximately one out of ten overdosed patients.

From the onset, the respiratory effort grows less both in volume and in rate. The volume depression is greater than that of the rate. With the continuance of the drug in overdose, this depression progresses to a complete respiratory paralysis in from one-half minute to two minutes, depending on the patient and the vapor tension of the drug. The patient is perfectly relaxed in every way. The picture during the deeper degrees of depression is one of collapse. The picture resembles that of cardiac syncope. But the pulse belies the picture. To the observant anesthetist there is ample warning of the approach of this depression; and there is no need that it be carried to the degree of total paralysis of the center. However, should total paralysis occur, resuscitation is simple. There is no respiratory obstruction, and two or three forceful, manual compressions of the thorax serve to eliminate the excess of the drug from about the respiratory center, and automatic respiration is re-established, to carry itself to the anesthetic normal in from one to four minutes.—(*J. A. M. A.*)

Acapnia Theory, Now.

The argument made by Raymond C. Coburn, New York, Yandell Henderson and Howard W. Haggard, New Haven, Conn., is as follows: Every one admits that after a prolonged anesthesia and operation the blood alkali is diminished. This low alkali is the result either of the acidotic or of the acapnial process. If the former were involved patients would die, instead of recover. For in animals in which the alkali reserve has been diminished by intravenous injection of acid, the administration of carbon dioxid does not recall a normal amount of alkali to the blood. It cannot, for the alkali no longer exists in the body. Indeed, such an animal, when treated with carbon dioxid is overwhelmed by the acidosis, and usually dies. After considerable hemorrhage, the powerful stimulation of carbon dioxid must be administered with especial caution.—(*J. A. M. A.*)

Venereal Disease in the Eighteenth Century.

This is a description of a book entitled: "A Treatise on the Venereal Disease," by N. D. Falck, Surgeon, London. Printed in 1772. Dickenson gives various entertaining extracts and concludes that the treatment for gonorrhea has made no material advance in the last 150 years. Finds also that Dr. Falck actually recommended an "antacrid injection' and mercurial ointment as preventives; "from which it appears that Metchinkoff's discovery was not exactly original."—(*Jour. Royal Naval Med. Serv.*, July, 1921.)